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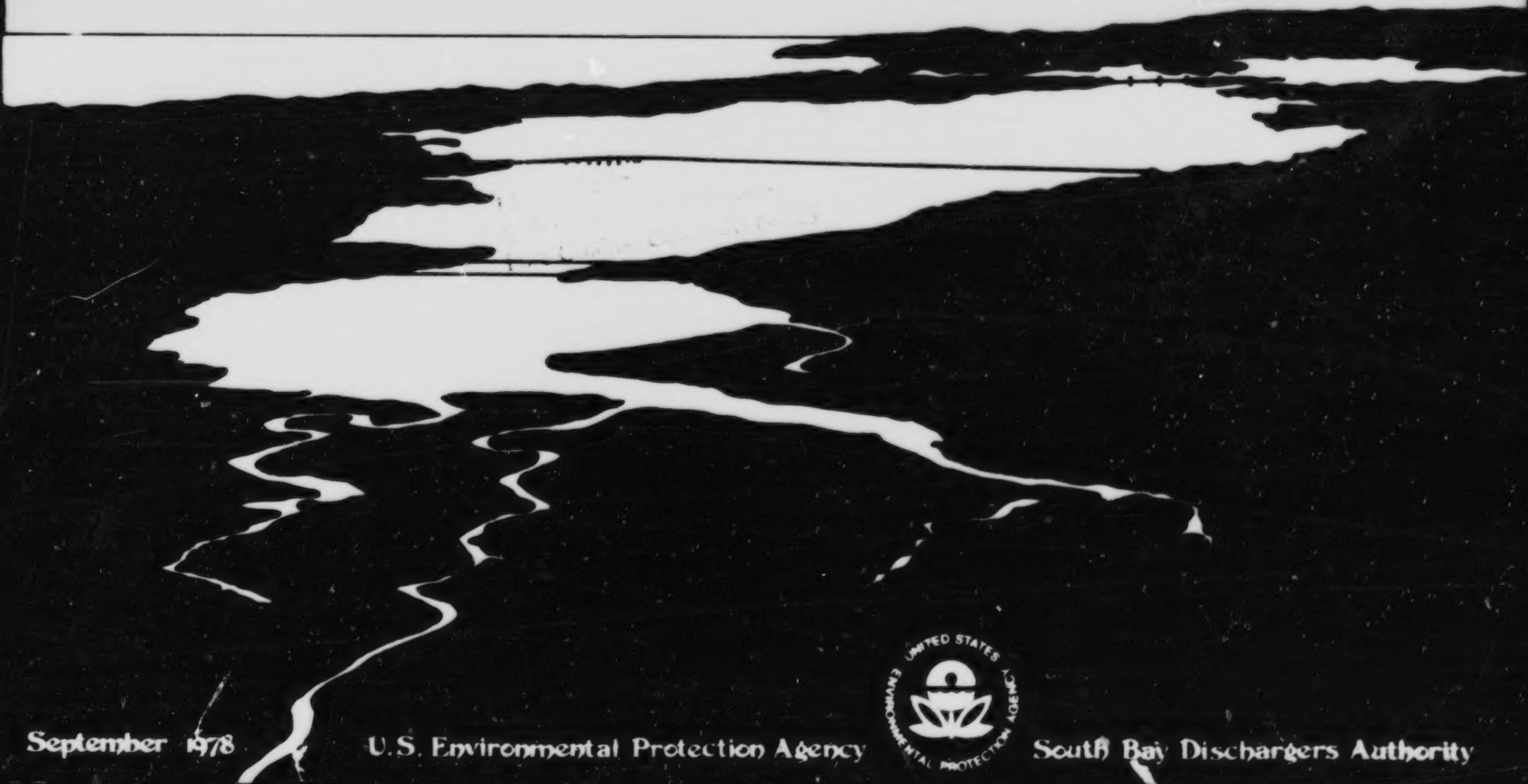

September 1978

U.S. Environmental Protection Agency

South Bay Dischargers Authority

EPA-9-CA-South Bay Dischargers Authority - 78

DRAFT
ENVIRONMENTAL IMPACT REPORT
AND
ENVIRONMENTAL IMPACT STATEMENT

SOUTH BAY DISCHARGERS AUTHORITY
TREATED WASTEWATER DISPOSAL PROGRAM

November, 1978

Prepared by:
U.S. Environmental Protection Agency
Region IX
215 Fremont Street
San Francisco, California 94105

and
South Bay Dischargers Authority
801 North First Street
San Jose, California 95110

With technical assistance from:
Bechtel Inc.
50 Beale Street
San Francisco, California 94119

In association with:
E. H. Smith and Associates
Archaeological Consulting and Research Services, Inc.
Mr. Michael Melanson
R. C. Harlan and Associates
Pacific Environmental Laboratory
Hydroscience, Inc.

Grant No. CA-06-1135

RESPONSIBLE OFFICIALS:

Frank M. Covington
for Paul De Falco, Jr.
Regional Administrator
Environmental Protection Agency
Region IX

Franklin D. Knofler
Franklin D. Knofler
Acting Chief Executive Officer
South Bay Dischargers Authority

NOV 2 9 1978

To All Interested Agencies, Public Groups, and Concerned Individuals:

The Draft Environmental Impact Statement (EIS) and Environmental Impact Report (EIR) for the South Bay Dischargers Authority Treated Wastewater Disposal Program is complete and is being distributed at this time for your review and comment. This program would provide a wastewater disposal system for the San Jose/Santa Clara, Sunnyvale, and Palo Alto wastewater treatment plants, located in the Santa Clara County Baylands along the southeastern edge of San Francisco Bay. The Draft EIR/EIS has been prepared to conform with the requirements of the National Environmental Policy Act of 1969 and the California Environmental Quality Act of 1970, as amended.

The project alternative has not been selected. However, the Environmental Protection Agency (EPA) and the South Bay Dischargers Authority (SBDA), at this time, recommend a "no project alternative" for the following reasons:

1. The degree to which increased dilution resulting from a discharge north of the Dumbarton Bridge will mitigate the adverse impacts of toxicants on the biota of the South Bay cannot be predicted.
2. Modeling studies have not shown that a substantial improvement in dissolved oxygen concentrations would result if the discharges were moved north of the Dumbarton Bridge.
3. The viability of future full reclamation is being investigated in the Regional Wastewater Reclamation Study. Should such an alternative prove to be feasible, it would meet the planning requirements of the San Francisco Bay Basin Plan.

The EPA and the SBDA recognize that comprehensive receiving water monitoring will be needed to document the impacts of wastewater discharges in the South Bay after treatment facilities, now under construction, are placed in full operation. In addition, each discharging agency is committed to local and regional wastewater reclamation investigations.

This decision is being recommended by EPA and SBDA, based upon present knowledge. However, if the final selection is a "no project alternative," we will continue to evaluate results of the monitoring program and will reconsider our selection, if appropriate.

The Final EIR/EIS will identify the project alternative selected after consideration of the public comments.

Comments on the Draft EIR/EIS should be sent to this office within 45 days of the date of this letter. All comments received will be considered in preparation of the Final EIR/EIS for this action. If you fail to comment within the specified time, it shall be assumed, absent a request for a specific extension of time, that you have no comment to make.

In order to receive testimony from the public, EPA will hold a public hearing on the Draft. It is presently anticipated that the hearing will be held in January or early February 1979. Public notice will be given in the local newspapers at least thirty days in advance of the public hearing.

The hearing may be continued from time to time, or to a different place, after its commencement, to accommodate the need of witnesses or the EPA.

All interested parties are invited to express their views at this hearing. Persons wishing to make comments may submit them in writing and/or appear at the hearing. Written comments should be submitted in triplicate to:

U.S. Environmental Protection Agency
Region IX
Attn: Hearing Office (HE-141)
215 Fremont Street
San Francisco, CA 94105

Oral statements will be received and considered, but, for accuracy of the record, all important testimony should be submitted in writing. Oral statements should summarize extensive written materials so that there will be time for all interested persons to be heard. Enough copies of the written materials should be produced so that other interested persons may receive a copy and there will be no necessity for written materials to be read at length.

The following documents constitute the Draft EIR/EIS:

Summary
Main Text
Appendices (2 volumes)

The Draft may be reviewed at the following locations:

U.S. Environmental Protection Agency
Region IX
Library
215 Fremont Street
San Francisco, CA 94105

U.S. Environmental Protection Agency
Public Reference Unit (P.M. 213)
401 M Street, S.W., Room 2922
Washington, D.C. 20460

Documents Librarian
Santa Clara County Library
Research Center
10400 Torre Avenue
Cupertino, CA 95014

San Jose Public Library
180 W. San Carlos St.
San Jose, CA 95110

Palo Alto Public Library
1213 Newell Rd.
Palo Alto, CA 94303

Santa Clara County Library
7387 Rosanna St.
Gilroy, CA 95020

Santa Clara County Library
78 South Dempsey Rd
Milpitas, CA 95035

Mountain View Public Library
585 Franklin Street
Mountain View, CA 94040

Library
Water Resources Center
University of California
Berkeley, CA 94720

Santa Clara Public Library
2635 Homestead Road
Santa Clara, CA 95051

Sunnyvale Public Library
Attn: Documents Librarian
665 W. Olive Avenue
Sunnyvale, CA 94086

Santa Clara County Library
1095 North 7th Street
San Jose, CA 95112

NASA Ames Research Center
Technical Library
Moffett Field
Sunnyvale, CA 94040

City of San Jose
Planning Department
801 North First Street
San Jose, California 95110

City of Santa Clara
Planning Department
1500 Warburton Avenue
Santa Clara, CA 95050

City of Mountain View
Planning Department
540 Castro Street
Mountain View, CA 94040

City of Sunnyvale
Planning Department
P.O Box 607
456 W. Olive Avenue
Sunnyvale, CA 94088

City of Los Altos
Planning Department
1 N. San Antonio Road
Los Altos, CA. 94022

City of Palo Alto
Planning Department
250 Hamilton Street
Palo Alto, CA 94301

City of Milpitas
Planning Department
455 E. Calaveras Blvd.
Milpitas, CA 95035

City of Cupertino
Planning Department
City Hall, 10300 Torre Ave
Cupertino, CA 95014

Town of Los Altos Hills
Planning Department
26379 Fremont Road
Los Altos Hills, CA 94022

City of Los Gatos
Planning Department
P.O. Box 949
Los Gatos, CA 95030

City of Monte Sereno
Planning Department
18041 Saratoga-Los Gatos Road
Monte Sereno, CA 95030

Please bring this notice to the attention of all persons who would be interested in this matter.

U.S. Environmental Protection Agency, Region IX

for Frank M. Covington

by Paul De Falco, Jr.
Regional Administrator

South Bay Dischargers Authority

Franklin D. Knofler

by Franklin D. Knofler
Acting Chief Executive Officer

Appendix A

RESULTS OF 1973 SOUTH BAY SEDIMENT SAMPLING PROGRAM - CHEMICAL PARAMETERS

Reported by Applied Soil Mechanics and Harlan Engineers 1973

CONTENTS

Appendix		Page
A	Results of 1973 South Bay Sediment Sampling Program — Chemical Parameters	A-1
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C	Mathematical Model of South San Francisco Bay	C-1
D	San Francisco Bay Receiving Water Quality Data for San Mateo, Sunnyvale, and Union Sanitary Districts	D-1
E	Water Quality Data Collected by the City of San Jose Department of Public Works, Water Pollution Control Division	E-1
F	Ambient Noise Survey	F-1
G	Biological Inventory of South San Francisco Bay	G-1
H	Benthic Biological Survey and Water Quality Programs	H-1
I	Terrestrial and Wetlands Biological Survey, 1975	I-1
J	An Assessment of the Archaeological and Paleontological Resources as may be Impacted by the South Bay Dischargers Authority's Proposed Joint Outfall Pipeline	J-1
K	Excerpts from BASSA (1975) Report on Water Quality	K-1
L	Federal, State, and Regional Laws, Regulations, and Plans	L-1

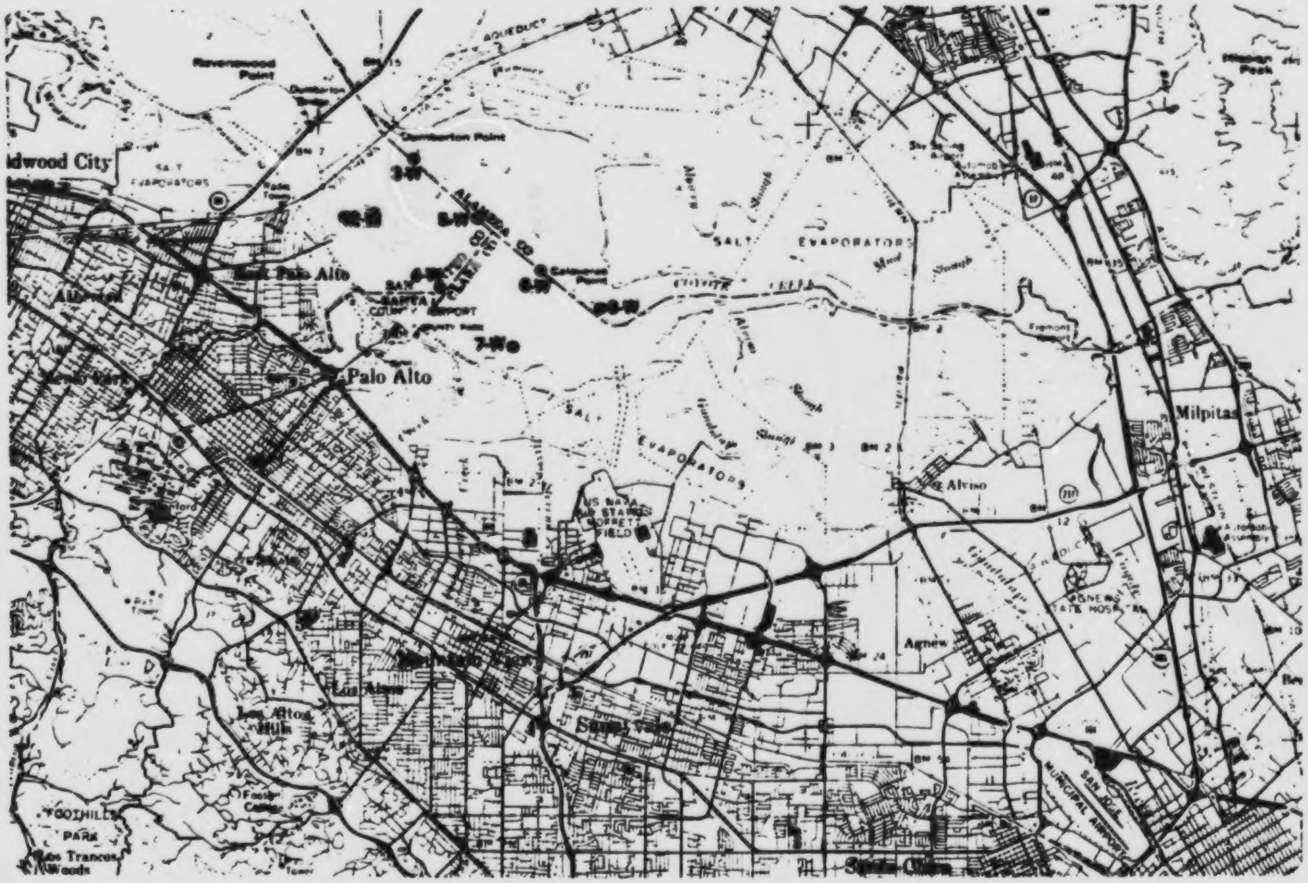
Ravenswood Point
Dumbarton Point
3-W
5-W
7-W
AQUEDUCT
SALT EVAPORATORS
East Palo Alto
Palo Alto
SANTA CLARA COUNTY AIRPORT
ALAMEDA CO
Milpitas
Alviso
Agnew
US NAVAL AIR STATION MOFFETT FIELD
Mountain View
Los Altos
Los Altos Hills
Sunnyvale
Santa Clara
SAN JOSE MUNICIPAL AIRPORT
FOOTHILLS PARK
Los Trancos Woods
Fremont

Figure A-1
SEDIMENT SURVEY – 1973

TABLE A-1
SOUTH BAY SEDIMENT ANALYSES
(Applied Soil Mechanics, 1973)

SOURCE OF SAMPLE:		2W-1E	2W-2E	2W-3E
South Bay Dischargers Authority Joint Outfall Project		d = 0 ft.	d = 5 ft.	d = 10ft.
Analysis	Units		ANALYTICAL RESULTS	
Volatile Solids	% (1)	8.06	7.75	8.34
Chemical Oxygen Demand (COD)	(1)	4.24	4.08	5.65
Total Kjeidahl Nitrogen (N)	% (1)	0.103	0.126	0.147
Oil and Grease	% (1)	0.156	0.120	0.207
Mercury (Hg) (2)	% (1)	0.015×10^{-4}	0.015×10^{-4}	0.015×10^{-4}
Lead (Pb) (3)	% (1)	0.0037	0.0030	0.0025
Zinc (Zn) (3)	% (1)	0.0132	0.0103	0.0098
Copper (Cu) (3)	(1)	0.0037	0.0020	0.0027
Cadmium (cd) (3)	% (1)	0.0005	0.0005	0.0005
TOTAL IDENTIFIABLE CHLORINATED HYDROCARBONS				
1. Polychlorinated Biphenyls (PBS)	Mg/Kg*	0.15	0.08	0.06
2. Chlorinated Pesticides (DDE, DDD, DDT, Aldrin, BHC, Chlordane, Endrin, Lindane and Dieldrin)	Mg/Kg	0.01	0.01	0.01

COMMENTS: (1) Oven Dry Weight Basis

(2) Analysis by Flameless Atomic Absorption Spectrophotometer

(3) Analysis by Atomic Absorption Spectrophotometer

COMMENTS: *Milligrams per kilogram, Oven Dry Weight Basis

Detection by Gas-Liquid Chromatography

TABLE A-1
SOUTH BAY SEDIMENT ANALYSES
(Applied Soil Mechanics, 1973)

SOURCE OF SAMPLE:		3W-1E	3W-2E	3W-3E
South Bay Dischargers Authority Joint Outfall Project		d = 0 ft	d = 5 ft.	d = 10 ft.
Analysis	Units		ANALYTICAL RESULTS	
Volatile Solids	% (1)	7.67	6.28	4.51
Chemical Oxygen Demand (COD)	% (1)	3.43	2.47	1.00
Total Kjeidahl Nitrogen (N)	% (1)	0.121	0.088	0.063
Oil and Grease	% (1)	0.233	0.056	0.037
Mercury (Hg) (2)	% (1)	0.015×10^{-4}	0.015×10^{-4}	0.015×10^{-4}
Lead (Pb) (3)	% (1)	0.0043	0.0013	0.0012
Zinc (Zn) (3)	% (1)	0.0144	0.0075	0.0060
Copper (Cu) (3)	% (1)	0.0028	0.0021	0.0017
Cadmium (cd) (3)	% (1)	0.0005	0.0005	0.0005
TOTAL IDENTIFIABLE CHLORINATED HYDROCARBONS				
1. Polychlorinated Biphenyls (PES)	Mg/Kg*	0.15	0.04	0.02
2. Chlorinated Pesticides (DDE, DDD, DDT, Aldrin, BHC, Chlordane, Endrin, Lindane and Dieldrin)	Mg/Kg*	0.01	0.01	0.01

COMMENTS: (1) Oven Dry Weight Basis

(2) Analysis by Flameless Atomic Absorption Spectrophotometer

(3) Analysis by Atomic Absorption Spectrophotometer

COMMENTS: *Milligrams per kilogram, Oven Dry Weight Basis

Detection by Gas-Liquid Chromatography

TABLE A-1
SOUTH BAY SEDIMENT ANALYSES
(Applied Soil Mechanics, 1973)

SOURCE OF SAMPLE:		4W-1E	4W-2E	4W-3E
South Bay Dischargers Authority Joint Outfall Project		d = 0 ft.	d = 5 ft	d = 10ft.
Analysis	**Units**		ANALYTICAL RESULTS	
Volatile Solids	% (1)	7.94	7.36	10.00
Chemical Oxygen Demand (COD)	% (1)	3.49	4.35	6.03
Total Kjeldahl Nitrogen (N)	% (1)	0.139	0.126	0.154
Oil and Grease	% (1)	0.058	0.077	0.108
Mercury (Hg) (2)	% (1)	0.015x10^{-4}	0.016x10^{-4}	0.015x10^{-4}
Lead (Pb) (3)	% (1)	0.0036	0.0017	0.0008
Zinc (Zn) (3)	% (1)	0.0139	0.0091	0.0075
Copper (Cu) (3)	% (1)	0.0043	0.0025	0.0023
Cadmium (cd) (3)	% (1)	0.0005	0.0005	0.0005
TOTAL IDENTIFIABLE CHLORINATED HYDROCARBONS				
1. Polychlorinated Biphenyls (PBS)	Mg/Kg*	0.19	0.10	0.04
2. Chlorinated Pesticides (DDE, DDD, DDT, Aldrin, BHC, Chlordane, Endrin, Lindane and Dieldrin)	Mg/Kg*	0.01	0.01	0.01

COMMENTS: (1) Oven Dry Weight Basis

(2) Analysis by Flameless Atomic Absorption Spectrophotometer

(3) Analysis by Atomic Absorption Spectrophotometer

COMMENTS: Milligrams per kilogram, Oven Dry Weight Basis

Detection by Gas-Liquid Chromatography

TABLE A-1
SOUTH BAY SEDIMENT ANALYSES
(Applied Soil Mechanics, 1973)

SOURCE OF SAMPLE:		5W-1E	5W-2E	5W-3E
South Bay Dischargers Authority Joint Outfall Project		d = 0 ft.	d = 5 ft.	d=10 ft.
Analysis	**Units**		ANALYTICAL RESULTS	
Volatile Solids	% (1)	7.45	12.76	7.57
Chemical Oxygen Demand (COD)	% (1)	3.80	4.50	5.06
Total Kjeldahl Nitrogen (N)	% (1)	0.102	0.113	0.132
Oil and Grease	% (1)	0.050	0.107	0.0094
Mercury (Hg) (2)	% (1)	0.015x10^{-4}	0.015x10^{-4}	0.015x10^{-4}
Lead (Pb) (3)	% (1)	0.0035	0.0015	0.0012
Zinc (Zn) (3)	% (1)	0.0135	0.0067	0.0088
Copper (Cu) (3)	% (1)	0.0028	0.0029	0.0019
Cadmium (cd) (3)	% (1)	0.0005	0.0005	0.0005
TOTAL IDENTIFIABLE CHLORINATED HYDROCARBONS				
1. Polychlorinated Biphenyls (PBS)	Mg/Kg*	0.17	0.01	0.02
2. Chlorinated Pesticides (DDE, DDD, DDT, Aldrin, BHC, Chlordane, Endrin, Lindane and Dieldrin)	Mg/Kg*	0.01	0.01	0.01

COMMENTS: (1) Oven Dry Weight Basis

(2) Analysis by Flameless Atomic Absorption Spectrophotometer

(3) Analysis by Atomic Absorption Spectrophotometer

COMMENTS: *Milligrams per kilogram, Oven Dry Weight Basis

Detection by Gas-Liquid Chromatography

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TABLE A-1
SOUTH BAY SEDIMENT ANALYSES
(Applied Soil Mechanics, 1973)

SOURCE OF SAMPLE:		6W	6W	6W
South Bay Dischargers Authority Joint Outfall Project		d = 0 ft.	d = 5 ft.	d=10 ft.
Analysis	**Units**		**ANALYTICAL RESULTS**	
Volatile Solids	% (1)	15.66	14.14	16.81
Chemical Oxygen Demand (COD)	% (1)	4.02	4.28	2.75
Total Kjeldahl Nitrogen (N)	% (1)	0.133	0.100	0.094
Oil and Grease	% (1)	0.091	0.072	0.091
Mercury (Hg) (2)	% (1)	0.058×10^{-4}	0.015×10^{-4}	0.015×10^{-4}
Lead (Pb) (3)	% (1)	0.0029	0.0008	0.0008
Zinc (Zn) (3)	% (1)	0.0130	0.0056	0.0064
Copper (Cu) (3)	% (1)	0.0031	0.0015	0.0019
Cadmium (cd) (3)	% (1)	0.0005	0.0005	0.0005
TOTAL IDENTIFIABLE CHLORINATED HYDROCARBONS				
1. Polychlorinated Biphenyls (PBS)	Mg/Kg*	0.10	0.08	0.04
2. Chlorinated Pesticides (DDE, DDD, DDT, Aldrin, BHC, Chlordane, Endrin, Lindane and Dieldrin)	Mg/Kg*	0.01	0.01	0.01

COMMENTS: (1) Oven Dry Weight Basis

(2) Analysis by Flameless Atomic Absorption Spectrophotometer

(3) Analysis by Atomic Absorption Spectrophotometer

COMMENTS: *Milligrams per kilogram, Oven Dry Weight Basis

Detection by Gas-Liquid Chromatography

TABLE A-1
SOUTH BAY SEDIMENT ANALYSES
(Applied Soil Mechanics, 1973)

SOURCE OF SAMPLE:		7W-1E	7W-2E	7W-3E
South Bay Dischargers Authority Joint Outfall Project		d = 0 ft.	d = 5 ft.	d= 10 ft.
Analysis	**Units**		**ANALYTICAL RESULTS**	
Volatile Solids	% (1)	6.91	8.52	7.87
Chemical Oxygen Demand (COD)	% (1)	4.92	4.25	6.17
Total Kjeldahl Nitrogen (N)	% (1)	0.112	0.181	0.182
Oil and Grease	% (1)	0.106	0.003	0.028
Mercury (Hg) (2)	% (1)	0.015×10^{-4}	0.015×10^{-4}	0.015×10^{-4}
Lead (Pb) (3)	% (1)	0.0018	0.0009	0.0019
Zinc (Zn) (3)	% (1)	0.0095	0.0078	0.0111
Copper (Cu) (3)	% (1)	0.0023	0.0028	0.0019
Cadmium (cd) (3)	% (1)	0.0005	0.0005	0.0005
TOTAL IDENTIFIABLE CHLORINATED HYDROCARBONS				
1. Polychlorinated Biphenyls (PBS)	Mg/Kg*	0.03	0.02	0.02
2. Chlorinated Pesticides (DDE, DDD, DDT, Aldrin, BHC, Chlordane, Endrin, Lindane and Dieldrin)	Mg/Kg*	0.01	0.01	0.01

COMMENTS: (1) Oven Dry Weight Basis

(2) Analysis by Flameless Atomic Absorption Spectrophotometer

(3) Analysis by Atomic Absorption Spectrophotometer

COMMENTS: *Milligrams per kilogram, Oven Dry Weight Basis

Detection by Gas-Liquid Chromatography

TABLE A-1
SOUTH BAY SEDIMENT ANALYSES
(Applied Soil Mechanics, 1973)

SOURCE OF SAMPLE:		8W-1E	8W-2E	8W-3E
South Bay Dischargers Authority Joint Outfall Project		d = 0 ft.	d = 5 ft.	d=10 ft.
Analysis	**Units**	ANALYTICAL RESULTS		
Volatile Solids	% (1)	7.16	5.19	5.28
Chemical Oxygen Demand (COD)	% (1)	3.77	2.66	3.36
Total Kjeldahl Nitrogen (N)	% (1)	0.094	0.030	0.086
Oil and Grease	% (1)	0.060	0.019	0.028
Mercury (Hg) (2)	% (1)	0.015×10^{-4}	0.015×10^{-4}	0.015×10^{-4}
Lead (Pb) (3)	% (1)	0.0034	0.0008	0.0009
Zinc (Zn) (3)	% (1)	0.0089	0.0045	0.0056
Copper (Cu) (3)	% (1)	0.0028	0.0012	0.0017
Cadmium (cd) (3)	% (1)	0.0005	0.0005	0.0005
TOTAL IDENTIFIABLE CHLORINATED HYDROCARBONS				
1. Polychlorinated Biphenyls (PBS)	Mg/Kg*	0.02	0.01	0.01
2. Chlorinated Pesticides (DDE, DDD, DDT, Aldrin, BHC, Chlordane, Endrin, Lindane and Dieldrin)	Mg/Kg*	0.01	0.01	0.01

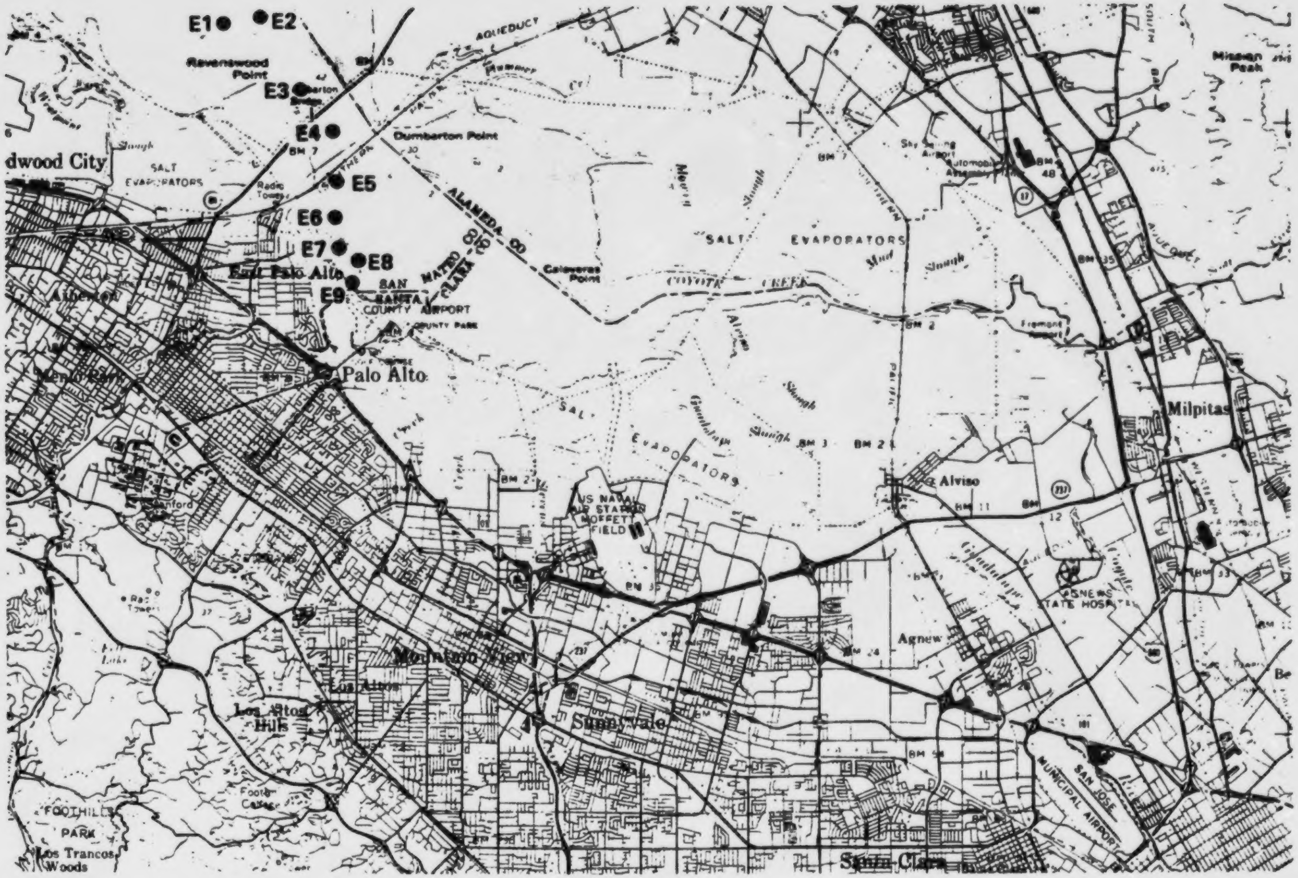
COMMENTS:
(1) Oven Dry Weight Basis
(2) Analysis by Flameless Atomic Absorption Spectrophotometer
(3) Analysis by Atomic Absorption Spectrophotometer

COMMENTS:
*Milligrams per kilogram, Oven Dry Weight Basis
Detection by Gas-Liquid Chromatography

Appendix B

REPORT OF EXPLORATION AND TESTING MARINE SOIL AND SEDIMENT, SOUTH BAY DISCHARGERS AUTHORITY

Prepared by R.C. Harlan and Associates


E1
E2
Ravenswood Point
E3
E4
E5
E6
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dwood City
SALT EVAPORATORS
Dumbarton Point
AQUEDUCT
ALAMEDA CO
SAN MATEO
SANTA CLARA
East Palo Alto
Atherton
Menlo Park
Palo Alto
Stanford
SANTA CLARA COUNTY AIRPORT
Calaveras Point
SALT EVAPORATORS
COYOTE CREEK
Mud Slough
Mission Peak
Milpitas
Alviso
US NAVAL AIR STATION MOFFETT FIELD
SALT EVAPORATORS
Agnew
Mountain View
Los Altos
Los Altos Hills
Sunnyvale
Santa Clara
SAN JOSE MUNICIPAL AIRPORT
FOOTHILLS PARK
Los Trancos Woods

SOURCE
R.C. HARLAN & ASSOCIATES
SOUTHBAY OUTFALL
JUNE, 1975

LEGEND:
E● Boring Location

Figure B-1
SEDIMENT BORING LOCATIONS

REPORT
OF
EXPLORATION AND TESTING
MARINE SOIL AND SEDIMENT
SOUTH BAY DISCHARGERS AUTHORITY

Prepared for

Bechtel Incorporated
P.O. Box 3965
San Francisco, California 94119
Bechtel Job Number 10035

by

John N Carver
John N. Carver
Civil Engineer 23772

Richard C. Harlan
Richard C. Harlan
Civil Engineer 11598

R. C. Harlan and Associates
55 New Montgomery Street, Suite 401
San Francisco, California 94105
August 14, 1975
Project 118.1

Project 118.1
August 14, 1975

INTRODUCTION

The South Bay Joint Dischargers Authority is planning the construction of a major outfall for sewage treatment plants in Santa Clara County, California. A soil engineering feasibility study was carried out in September 1973 to provide soils information for selection of the outfall alignment. Selection of the Option 2 alignment was made by Bechtel, Inc. in 1974. After review of the Environmental Impact Report, the United States Environmental Protection Agency (EPA) indicated that further studies were required to determine chemical content of dredged materials.

A program of sampling and testing was formulated between personnel of E.P.A., Bechtel, Inc., R. C. Harlan and Associates, and Pacific Environmental Laboratory. Nine areas spaced approximately equally along the offshore portion of the proposed alignment were to be sampled from the surface of the sediments to 18 feet. The samples were then to be cooled, sealed and tested. The chemical testing program was performed in accordance with

> "Preliminary Sampling and Analytical Procedures for Evaluating the Disposal of Dredged Materials", April 1974, Region IX, Environmental Protection with the Following Exception:
>
> > (A Soxhlet extraction of "oil and grease" was performed using 'Freon 113' as the solvent, as recommended by the "Manual of Methods for Chemical Analysis of Water and Wastes", 1974 of the Environmental Protection Agency.)

To increase the soil engineering data available for this portion of the realignment, arrangements were made with Bechtel and the EPA to use portions of the samples for geotechnical testing. Tests were run in the field and in the laboratory to determine shear strengths, in-situ dry density and moisture content and Atterberg Limits. Authorization for the project and the scope of this program were contained in Bechtel's Agreement for Technical Services 10035-005-SF-6 dated June 2, 1975.

Sampling operations began on June 6, 1975 using a barge mounted drill rig. The sampling procedures were directed by the field engineers who also maintained logs, carried out field testing, and directed positioning of the barge. Samples obtained for environmental testing were refrigerated and transported to the laboratory the morning following sampling. Samples for geotechnical testing were held until the completion of sampling and then sent to the laboratory. Details of the testing programs are presented in later sections of this report.

Access to 5 borings located on or near the mud flats depended on the tides being sufficiently high. Chemical testing began during the week of June 9 and was complete by August 8, 1975. Geotechnical testing began on June 16 and was complete by August 1, 1975.

This report presents the findings of the sampling and testing programs along with detailed descriptions of the procedures followed. Figure 1, a mosaic of four U.S. Geologic Survey 7.5 minute quadrangles, shows the locations of the nine sampling areas. Position of the barge and final boring location were determined by our engineer in the field. Boring logs are presented on Figures 2 through 10 with results of the geotechnical testing. Table I gives the results of the chemical testing. Appendix A is the report on chemical testing prepared by Pacific Environmental Laboratory.

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SUMMARY

In general the sediments encountered are typical of San Francisco Bay deposits. The predominant soil was the grey silty clay of high plasticity locally known as Bay Mud. This material is described by the Unified Soil Classification symbol of (CH). Shear strengths of the silty clay ranged from less than 200 pounds per square foot to 10,000 pounds per square foot, usually increasing with depth. Dry densities were low, as is common for Bay Mud, approximately 50 pounds per cubic foot and moisture contents ranged to over 100%. Atterberg Limits determined on softer Bay Mud samples had Liquid Limits (LL) in the range of 75 to 118 and Plasticity Indices (P.I.) of 45 to 97.

Shells, sand and peat were found mixed with the Bay Mud in some borings, and as relatively thin lenses or layers in the Bay Mud. Sand, and sand and gravel were encountered underlying the Bay Mud in borings E1 and E6.

The laboratory analysis of the core samples to determine amounts of metals and of "oil and grease" was generally carried out in accordance with "Preliminary Sampling and Analytical Procedures For Evaluating the Disposal of Dredged Material", April 1974, Region IX, Environmental Protection Agency. The exception to this was a Soxhlet extraction of "oil and grease", performed using Freon 113 as the solvent as recommended by the "Manual of Methods For Chemical Analysis of Water and Wastes", 1974 of the Environmental Protection Agency. The testing provided the amounts of the metals Mercury (Hg), Cadmium (Cd), Lead (Pb), Zinc (Zn), and of "oil and grease" present in the core samples. Tests were also run to determine the percentage by dry weight of the core samples which were greater than "silts or clays".

This was done by determining amounts of the sample retained on a Standard U.S. Sieve, Size No. 200.

The results of the testing have been compared to the criteria of the "Environmental Protection Agency, Region IX, Dredge Spoils Disposal Criteria"[1]. These criteria for disposal in fresh water and shallow marine and esturine water are"

Fresh water

Pollutant	Maximum Spoil Concentration, ppm
Mercury	1.0
Cadmium	2.0
Lead	120
Zinc	210
Oil and grease	1,500

Marine (shallow) and estuarine water

Pollutant	Maximum Spoil Concentration, ppm
Mercury	1.5
Cadmium	3.0
Lead	180
Zinc	300
Oil and grease	4,000

Results showing the particle size and the presence of Mercury, Cadmium, Lead, Zinc, and oil and grease, are summarized on the table below. Percentages of dry weight of the tested sample which were greater than the U.S. Sieve, Size 200, are given. The figures in the other columns are parts per million (PPM) of the pollutant found in the sample.

---

[1] Dredge Spoil Disposal Criteria - Revision I (DSDC -R1) dated October 21, 1974.

TABLE I

Sample	Depth Feet	Particle Size % Retained on #200 Sieve	Hg (PPM)	Cd (PPM)	Pb (PPM)	Zn (PPM)	Oil & Grease (PPM)
E1-1	0-3	41.4	0.328	<1.2	14.6	75.8	485
E1-2	3-6	74.0	0.061	<0.9	7.0	38.7	194
E1-3	6-9	72.3	0.053	<0.9	6.6	29.3	187
E1-4	9-12	78.8	0.082	<1.0	4.5	33.4	148
E1-5	12-15	73.7	0.071	<0.9	4.3	32.1	114
E1-6	15-18	80.7	0.065	<0.9	4.3	29.8	131
E2-1	0-3	3.3	0.714	<1.7	20.8	66.4	1030
E2-2	3-6	1.0	0.589	<1.8	17.7	69.2	1060
E2-3	6-9	1.4	0.564	<1.7	16.4	72.4	762
E2-4	9-12	5.4	0.591	<1.7	10.5	59.4	746
E2-5	12-15	33.3	0.180	<1.6	7.8	49.8	600
E2-6	15-18	3.4	0.136	<1.2	7.9	[illegible]	139
E3-1	0-3	1.4	0.440	<1.7	29.5	118	756
E3-2	3-6	3.9	0.556	<1.8	26.3	103	850
E3-3	6-9	6.2	0.651	<1.6	16.4	81.1	692
E3-4	9-12	12.9	0.136	<1.5	11.0	73.6	208
E3-5	12-15	32.8	0.114	<1.4	10.4	58.0	405
E3-6	15-18	15.5	0.122	<1.1	8.1	51.7	220
E4-1	0-3	1.5	0.529	<1.8	31.0	110	1290
E4-2	3-6	1.2	0.589	<1.8	27.2	85.2	695
E4-3	6-9	1.6	0.581	<1.7	19.0	78.5	662
E4-4	9-12	1.6	0.505	<1.7	21.4	63.3	776
E4-5	12-15	6.4	0.380	<1.4	7.2	49.9	439
E4-6	15-18	1.5	0.671	<1.7	9.4	64.3	401
E5-1	0-3	<1.0	0.618	<1.7	8.6	75.3	573
E5-2	3-6	<1.0	0.665	<1.8	8.8	83.0	592
E5-3	6-9	75.6	0.029	<1.0	14.8	71.6	86
E5-4	9-12	90.2	0.045	<1.0	14.4	64.9	126
E5-5	12-15	83.1	0.033	<1.0	21.0	69.9	162
E5-6	15-18	5.1	0.094	<1.5	18.3	87.7	266
E6-1	0-3	7.4	0.558	<1.6	15.5	84.6	358
E6-2	3-6	6.7	0.559	<1.7	16.9	74.4	605
E6-3	6-9	71.5	0.112	<1.7	8.4	46.8	319
E6-4	9-12	29.4	0.053	<1.4	6.8	51.4	[illegible]
E6-5	12-15	54.9	0.088	<1.0	7.4	38.6	126
E6-6	15-18	25.1	0.068	<1.1	8.0	<1.1	108
E7-1	0-3	<1.0	0.643	<1.6	27.7	94.9	560
E7-2	3-6	<1.0	0.643	<1.6	24.2	96.9	726
E7-3	6-9	<1.0	0.644	<1.7	12.5	69.8	[illegible]
E7-4	9-12	<1.0	0.551	<1.8	8.5	79.5	[illegible]

Sample	Depth Feet	Particle Size % Retained on #200 Sieve	Hg (PPM)	Cd (PPM)	Pb (PPM)	Zn (PPM)	Oil & Grease (PPM)
E7-5	12-15	<1.0	0.580	<1.8	8.8	93.4	1050
E7-6	15-18	<1.0	0.354	<1.5	7.7	81.8	645
E8-1	0-3	<1.0	0.550	<1.4	26.8	108	34
E8-2	3-6	<1.0	0.551	<1.5	17.3	87.4	245
E8-3	6-9	2.4	0.286	<1.7	12.5	71.6	353
E8-4	9-12	<1.0	0.107	<1.7	8.4	78.3	199
E8-5	12-15	<1.0	0.101	<1.9	9.8	74.1	170
E8-6	15-18	2.2	0.099	<1.6	8.4	73.4	400
E9-1	0-3	30.7	0.357	<1.5	14.7	69.8	393
E9-2	3-6	<1.0	0.389	<1.4	20.7	75.8	105
E9-3	6-9	<1.0	0.241	<1.7	8.6	64.3	400
E9-4	9-12	<1.0	<0.100	<2.0	10.2	62.3	1040
E9-5	12-15	<1.0	0.091	<1.6	8.2	80.5	200
E9-6	15-18	<1.0	0.093	<1.8	9.2	82.0	490

The greatest amounts of the various pollutants found in any of the samples are presented below:

Pollutant	Sample Number	Amount (PPM)
Mercury	E2-1	0.714
Cadmium	E9-4	less than (<) 2.0
Lead	E4-1	31.0
Zinc	E3-1	118
Oil & Grease	E4-1	1290

These maximum amounts are all less than the E.P.A. Dredge Spoil Disposal Criteria for Fresh Water or Marine (shallow) and esturine water.

Test Boring Summary

Boring E1 - Located west of the proposed outfall outlet. This boring

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is in approximately 30 feet of water on the southwest edge of the deep water channel and approximately 1.5 miles northwest of the Dumbarton Bridge.

The upper strata of sediments was soft grey silty clay (Bay Mud) and shells. The shells were approximately 50% of the volume sampled. Because of the high percentage of shells, samples suitable for geotechnical testing were not obtained from this boring. Underlying the Bay Mud at 9 feet, clean grey medium sand was encountered and continued to the bottom of the boring, 18 feet below the surface of the sediments. No samples of the sand suitable for strength testing were obtained but in-situ test results indicate that the sand has relative densities ranging from 60 to 80%. Moisture contents of the sand were about 23% and dry densities were 103.1 to 105.5 pounds per cubic foot.

Boring E2 - Located at the proposed outfall outlet in approximately 40 feet of water, some 1.3 miles northwest of the Dumbarton Bridge. The upper 9 feet of sediments were soft Bay Mud with no shells or sand. Shear strengths were 500 pounds per square foot or lower. From 9 to 15 feet, stiff to very stiff Bay Mud with shells and sand lenses were encountered. Shear strengths were up to 1300 pounds per square foot. Atterberg limits were high with liquid limits (LL) of 92 and 118 and plasticity indices of 66 and 97 respectively. Underlying the Bay Mud at 15 to 18 feet a very stiff to hard tan and brown silty clay was encountered. Field tests indicated a shear strength of 10,000 pounds per square foot; laboratory testing showed a shear strength of 5800 pounds per square foot. A liquid limit of 45 and plasticity index of 25 were determined on this hard silty clay.

Boring E3 - Located along the alignment, about 800 feet northwest of the Dumbarton Bridge in approximately 6 feet of water. Bay Mud was encountered in this boring from the surface of the sediments to about 13 feet. Shells were found only in sample E3-3 from 6 to 9 feet. At 13 feet stiff tan and grey silty clay was encountered. Shear strength increased from 200 pounds per square foot in sample E3-1 (0-3') up to 3000 pounds per square foot determined in the field and 1200 pounds per square foot determined in the laboratory on sample E3-6. Atterberg limits on sample E3-2 were a liquid limit of 75 and a plasticity index of 47. In the stiff to very stiff silty clay below 13 feet a liquid limit of 29 and a plasticity index of 8 were determined.

Boring E4 - Located along the proposed alignment, approximately 2400 feet southeast of the Dumbarton Bridge in about 10 feet of water. The grey silty clay Bay Mud was encountered in Boring E4 for the total depth. No significant amount of shells, sand or other sediments were found. Shear strength increased with depth from less than 200 pounds per square foot in sample E4-1 to about 1300 pounds per square foot in sample E4-4, and then decreased to about 500 pounds per square foot in sample E4-6. Atterberg limits were high throughout the samples with liquid limits of 81 and 94 and plasticity indices of 45 and 56 for samples E4-2 and E4-6 respectively.

Boring E5 - Located at the edge of the mud flats on the west edge of the mouth of Mayfield Slough, approximately 1.1 mile south of the Dumbarton Bridge and in less than 6 feet of water. The location of this boring required access during a period of high tide. Bay Mud was encountered from 0 to 9 feet and was generally very soft to soft, exhibiting shear strength of about 200 pounds per square foot. Atterberg limits were high: LL=92 and P.I.=57 for sample E5-2. The Bay Mud began to contain sand at about 6 feet. Medium dense medium sized sand with no fines was encountered from 9 to 12.5 feet and from 13.5 to 15 feet, with a layer of stiff Bay Mud from 12.5 to 13.5 feet. Underlying the sand at 15 feet, very stiff Bay Mud was encountered. The shear strength of this material was 3500 pounds per square foot as determined by the torvane and 1750 pounds per square foot by laboratory tests. The Atterberg limits were typical of Bay Mud with a liquid limit of 89 and a plasticity index of 56.

Boring E6 - Located on the west edge of Mayfield Slough approximately 1.6 miles south of the Dumbarton Bridge and about 1500 feet northeast of Cooley Landing. Although this boring was not planned to be located on the mud flats, the area was accessible only at high tide. Very soft to soft Bay Mud with shear strengths of 500 pounds per square foot and less, was encountered from 0 to 7 feet. Bay Mud and shells were then encountered to a depth of 12 feet. The high percentage of shells present precluded strength and classification testing. From 12 to 18 feet, dense to very dense sand and gravel was encountered. This material was sampled by driving the sampler continously. The blows required per foot of sample were recorded and are an indication of relative density. No Atterberg limits were determined on samples from boring E6.

Boring E7 - Located in the mud flats 500 feet to the west of Mayfield Slough and about 1200 feet southeast of Cooley Landing. This location is accessible only during high tides and is exposed mud during low tide periods. Bay Mud was encountered from the surface to 15 feet. Some shells, approximately 20% by volume, were encountered from about 3 to 7 feet. The shear strength of the Bay Mud increased slightly with depth, from below 400 pounds per square foot near the surface to as high as 800 pounds per square foot in sample E7-3. Stiff brown and grey mottled silty clay was encountered at 15 feet and extended beyond the 18 foot sampling depth. The torvane indicated a shear strength of 1000 pounds per square foot. Laboratory tests showed a shear strength of 1650 pounds per square foot. Liquid limits of 94 and 100, and plasticity indices of 58 were determined on samples E7-4 and E7-5.

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Boring E8 - Located along the alignment in the mud flats between Mayfield Slough and the western shore line about 2600 feet southeast of Cooley Landing. This boring was located about 1150 feet inside the 6 foot water depth and was exposed mud during low tides. Bay Mud was found throughout the whole sampling depth. Although Bay Mud generally has an organic odor, sample E8-3 exhibited an unusually strong odor compared to other samples. The shear strength of the Bay Mud increased with depth from 600 pounds per square foot to 2000 pounds per square foot as determined in the laboratory. Liquid limits of 82, 102, and 105 along with plasticity indices of 56, 64, and 71 were determined on samples E8-1, E8-3, and E8-6.

Boring E9 - Located along the alignment, approximately 500 feet north of the mouth of San Francisquito Creek. This location is about 2000 feet beyond the land portion of the alignment and was accessible only at high tide. At the surface of the sediments approximately 2 feet of peat mixed with soft Bay Mud and sand was encountered. This material had a dry density of 13 pounds per cubic foot. Bay Mud with layers of sand was encountered below the peat and extended to 9 feet. Below 9 feet and extending to 12 feet, Bay Mud with peat layers less than 6 inches thick was encountered. Stiff Bay Mud was encountered from 12 feet to the bottom of the boring. Shear strength increased with depth to 9 feet where it was between 2000 and 3000 pounds per square foot, and then dropped to about 1200 pounds per square foot and remained about the same to the bottom of the boring. Atterberg limits on sample E9-6 indicated a liquid limit of 87 and a plasticity index of 48.

EXPLORATION AND SAMPLING

Since all 9 areas to be sampled were offshore, a barge mounted drill rig was required to reach the locations. A "Failing" 450 truck mounted rotary drill rig was mounted on a sectional diesel powered barge. During exploration the barge was left at anchor and the crew used a small power boat for access to shore. The field engineer directed the positioning of the barge on the boring location by visual sighting. Angles between various vsible landmarks were measured with a sextent and used to plot position. The barge was then maneuvered until the planned location of the boring was reached. Four anchors were set to prevent drifting and to stabilize the barge.

After anchoring and a final determination of location, the sampling operation began. In non-granular soils an Osterberg piston sampler was used. This sampler used a 36 inch long, 3 inch outside diameter, teflon coated thin wall tube to recover samples. Thirty-six inch long samples were obtained at three foot intervals resulting in continuous samples to 18 feet below the surface of the sediments. Samples in granular soils or soils too hard for the Osterberg sampler were recovered using a modified California sampler which is a split barrel drive sampler. Three 6 inch long, 2.37 inch inside diameter brass liners were placed in the sampler. The sampler was then driven 18 inches into undisturbed material and withdrawn. After the sampler was withdrawn, the hole was reamed with an auger to the next sampling depth. By sampling every 18 inches, a continuous sample of granular and hard soils was obtained.

Osterberg samples were hydraulically extruded from the teflon coated thin wall tubes. The second 6 inch portion of the sample was extruded into a thin wall brass liner for geotechnical testing. The first 6 inches along with the remainder were extruded into plastic sacks for chemical analysis.

Samples obtained with the drive sampler with the exception of the second 6 inches were extruded into plastic sacks. The second 6 inches were left intact for geotechnical testing. As the samples were being extruded, shear strengths were determined using a Torvane. All samples were visually classified, labeled, and sealed. The samples to be used for chemical analysis were then stored in a cooled ice chest to retard bacteria growth. Each evening after sampling the samples were stored in a refrigerator until being transported to the laboratory the following morning. Samples for geotechnical testing were stored on the barge in an air tight condition until the completion of sampling. The field engineer observed all sampling and field testing and maintained logs of each boring. Information on the field logs maintained during sampling was transferred to formal log forms along with geotechnical testing results.

LABORATORY ANALYSIS OF CHEMICAL POLLUTANTS

An analysis of the 54 core samples obtained was run to determine amounts of pollutants present. The proposed project would generate dredge spoils which would have to be properly disposed of. The testing program determined the amounts of Mercury, Cadmium, Lead, Zinc, and "oil and grease" in samples of the materials which would compose the dredge spoils. Additionally, the percentage of the material retained on a U.S. Sieve No. 200 was also determined. The day following sampling the core samples were delivered to the laboratory in polyethylene bags. On the day the core samples were received, each sample was logged-in and assigned a laboratory sample number. The core samples were then transferred into wide mouth polyethylene jars and were stored in an iced box, except for the period when an aliquot of core sample was removed for analysis during the analytical period. The methods used in testing were:

Particle Size

The analytical method used for the particle size determination was as outlined in Appendix C of the "Water Quality Control Plan Ocean Waters of California", State Resources Control Board, 1972, except only one sieve, U.S. Sieve No. 200, was used.

Metals, Oil and Grease

The analytical methods used for the dry solids, metals (cadmium, lead, zinc, and mercury) and "oil and grease" were in accordance with the "Preliminary Sampling and Analytical Procedures for Evaluating the Disposal of Dredged Materials", April, 1974, Region IX, Environmental Protection Agency with the following exception:

> (A Soxhlet extraction of "oil and grease" was performed using Freon 113 as the solvent, as recommended by the "Manual of Methods for Chemical Analysis of Water and Wastes", 1974 of the Environmental Protection Agency.)

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The chelating-extracting solvent of cadmium, lead and zinc was ammonium pyrrolidine dithiocarbamate (APDC) and methyl isobutyl ketone (MIBK). This extract of the metal compounds was then analyzed by an atomic absorption spectrophotometer. The mercury analysis was by the cold vapor flameless atomic absorption spectrophotometer method.

The following was the quality control program carried out to determine precision and accuracy. A minimum of ten (10) percent or more of the core samples were randomly selected and processed as routine samples and the precision and accuracy of the method determined. The precision and accuracy are defined as follows:

1. Precision represents the reproducibility of the method among replicate analyses and expressed in standard deviation, s.
2. Accuracy of the analytical method was determined by adding a known amount of a particular constituent to an actual sample and determining the proportion recovered of this particular constituent. These results are expressed in % Recovery (R). The level of the constituents referred to herein are on an even dry weight basis.

The report by Pacific Environmental Laboratory presenting the test results is included in Appendix "A".

GEOTECHNICAL TESTING

A program of geotechnical testing was planned to provide additional soil engineering data which could be used in final design of the alignment. Since the primary purpose of this study was to collect further data on the environmental effects of the outfall's effluent, only limited samples for geotechnical testing were available. Initially, shear strength by Torvane, moisture contents and dry densities on all samples, 9 sets of Atterberg limits, and 18 unconfined compression tests were to be performed. Because of some non-cohesive soils, extremely soft soils and the very disturbed condition of several samples, the testing program was modified to include 43 Torvane tests, 41 natural dry densities and moisture contents, 22 unconfined compression tests and 15 sets of Atterberg limits.

The Torvane test determined shear strength of cohesive soils by insertion of a vaned device into the sample and testing until complete failure. The shear strength is then read directly on a calibrated dial in tons per square foot. ASTM Test Procedure D-424 was used to determine the Atterberg limits. Laboratory shear strengths were determined from unconfined compression tests run in accordance with ASTM Test Procedure D-2166. All the geotechnical test results are presented on the boring logs.

Project 118.1
August 14, 1975

DEFINITIONS

Atterberg Limits

Atterberg Limits are used in classifying fine grained soils. The Liquid Limit (LL) is the moisture content (percent of dry weight) of the soil at which the soil is between the states of liquid behavior and plastic behavior. At greater moisture contents it is liquid; at lower moisture contents it is plastic. The Plastic Limit (PL) is the moisture content of the soil at which the soil is between the state of plastic behavior and semi-solid behavior. At higher moisture content it is plastic; at lower moisture contents it is semi-solid. The Plasticity Index (PI) is the Liquid Limit minus the Plastic Limit (LL-PL) also expressed as moisture content in percent of dry weight.

Shear Strength

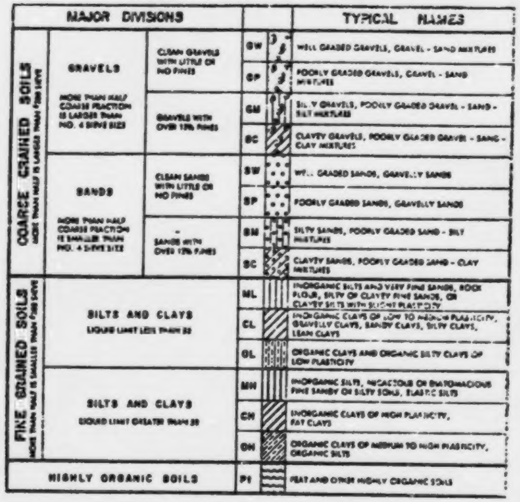
The maximum shear stress that a soil can carry without undergoing substantial deformation. Determined by unconfined compression tests and Torvane tests.

Torvane

A small hand operated vane shear device for field or laboratory use determining shear strength by torsion.

Relative Density

A measure of the compactness of the material in-situ. Expressed as a percentage based on measured voids ratio between the minimum and maximum voids ratios of the soil.



MAJOR DIVISIONS					TYPICAL NAMES
COARSE GRAINED SOILS MORE THAN HALF IS LARGER THAN #200 SIEVE	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW	∘	WELL GRADED GRAVELS, GRAVEL - SAND MIXTURES
			GP	∘	POORLY GRADED GRAVELS, GRAVEL - SAND MIXTURES
		GRAVELS WITH OVER 12% FINES	GM	▥	SILTY GRAVELS, POORLY GRADED GRAVEL - SAND - SILT MIXTURES
			GC	▨	CLAYEY GRAVELS, POORLY GRADED GRAVEL - SAND - CLAY MIXTURES
	SANDS MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE	CLEAN SANDS WITH LITTLE OR NO FINES	SW	⁘	WELL GRADED SANDS, GRAVELLY SANDS
			SP	⁘	POORLY GRADED SANDS, GRAVELLY SANDS
		SANDS WITH OVER 12% FINES	SM	▥	SILTY SANDS, POORLY GRADED SAND - SILT MIXTURES
			SC	▨	CLAYEY SANDS, POORLY GRADED SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN HALF IS SMALLER THAN #200 SIEVE	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50		ML	▥	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL	▨	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL	▦	ORGANIC CLAYS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50		MH	▥	INORGANIC SILTS, MICACEOUS OR DIATOMACIOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH	▨	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH	▨	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS			Pt	▤	PEAT AND OTHER HIGHLY ORGANIC SOILS

UNIFIED SOIL CLASSIFICATION SYSTEM

◩ Sample recovered in Osterberg Sampler

⊙ Laboratory Test Results (Shearing strength determined by unconfined compression tests, moisture contents, and dry densities.

▯ Sample recovered in Modified California Sampler

⊡ Shearing strengths determined in the field with a Torvane.

KEY TO SAMPLES

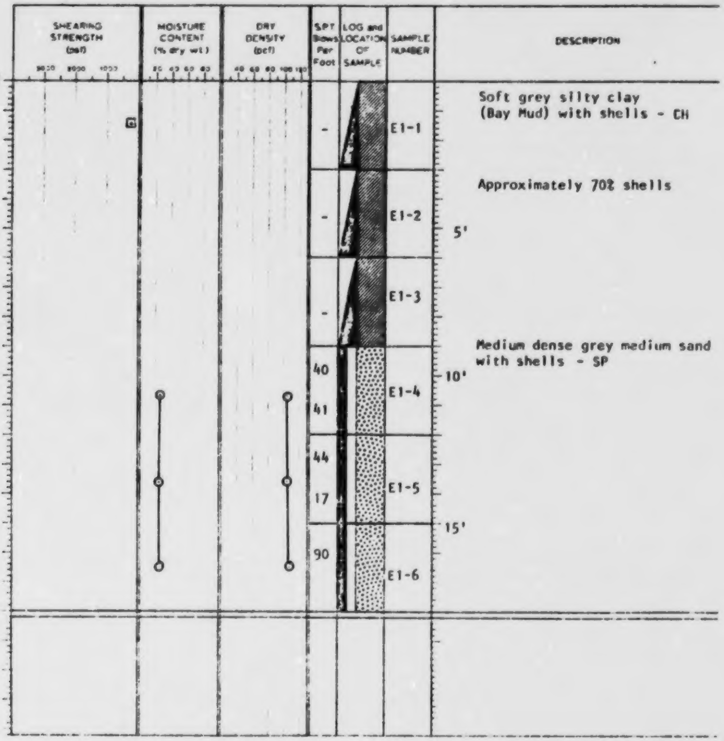
R.C. Harlan AND ASSOCIATES San Francisco, California	Exploration and Testing, Marine Soil and Sediment South Bay Dischargers Authority	FIGURE 2
Proj. No 118.1 Appr. JC Date 8-75		

FILE NO. 118.1

DATE June 9, 1975

PROJECT South Bay Outfall Sampling

BORING NO. E1



Soft grey silty clay (Bay Mud) with shells - CH

Approximately 70% shells

Medium dense grey medium sand with shells - SP

Water depth - 31 feet

Log of Boring E1

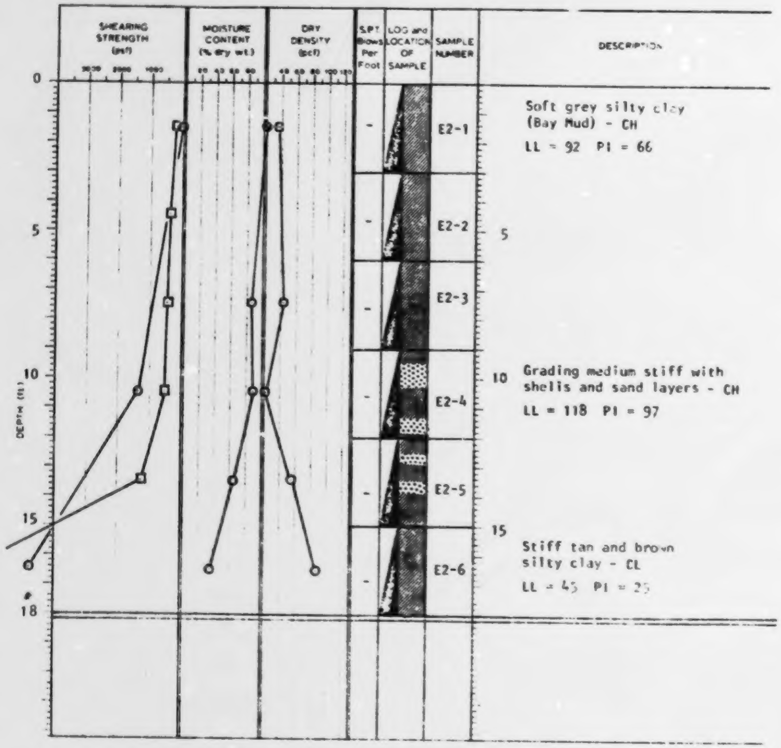
Figure 3

FILE NO. 118.1

DATE June 10, 1975

PROJECT South Bay Outfall Sampling

BORING NO. E2



Soft grey silty clay (Bay Mud) - CH

LL = 92 PI = 66

Grading medium stiff with shells and sand layers - CH

LL = 118 PI = 97

Stiff tan and brown silty clay - CL

LL = 45 PI = 25

Water Depth - 40 Feet

Log of Boring E2

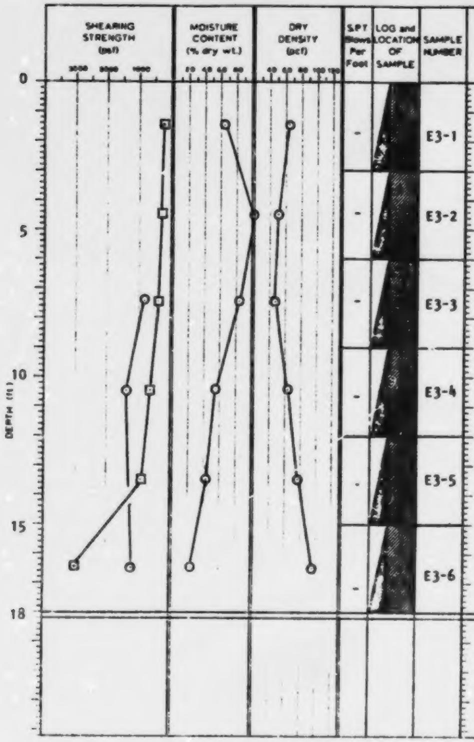
Figure 4

FILE NO 118.1

DATE June 10, 1975

PROJECT South Bay Outfall Sampling

BORING NO. E3



DESCRIPTION

Soft grey silty clay (Bay Mud) - CH

LL = 75 PI = 47

Grading medium stiff

5

Grading with shells

10

Grading stiff - CL

LL = 29 PI = 8

15

Stiff tan and grey silty clay - CL

Water Depth - 40 Feet

Log of Test Boring E3

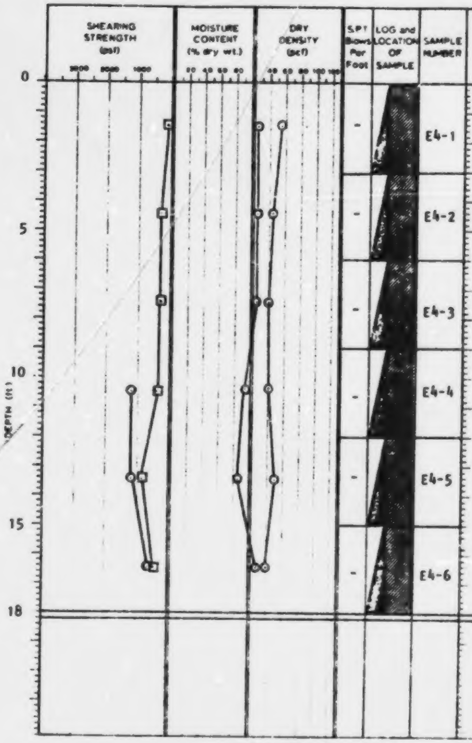
Figure 5

FILE NO 118.1

DATE June 10, 1975

PROJECT South Bay Outfall Sampling

BORING NO. E4



DESCRIPTION

Very soft grey silty clay (Bay Mud) - CH

Grading soft

5

LL = 81 PI = 45

Grading medium stiff

10

15

LL = 94 PI = 56

Water Depth - 15 Feet

Log of Boring E4

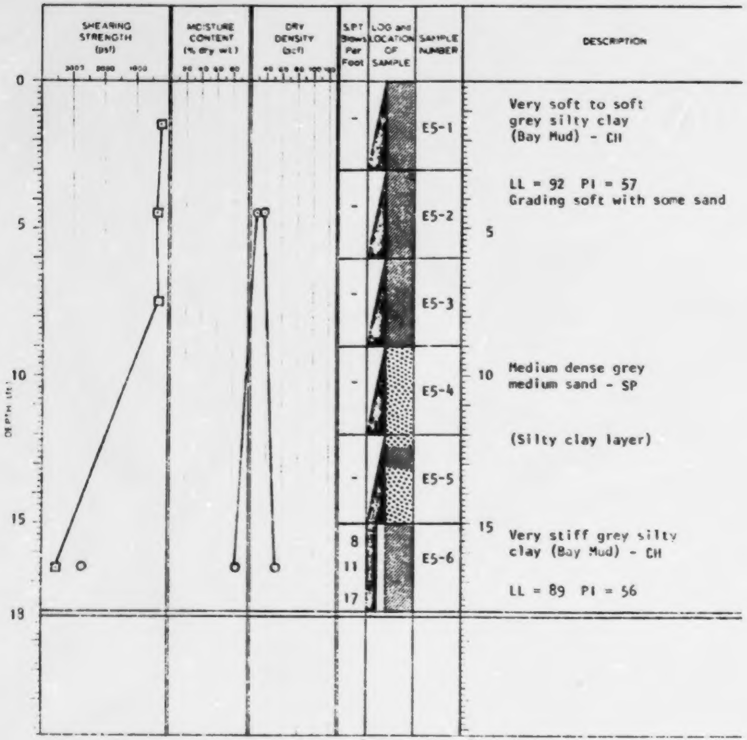
Figure 6

FILE NO 118.1

DATE June 10, 1975

PROJECT South Bay Outfall
Sampling

BORING NO. E5



Very soft to soft grey silty clay (Bay Mud) - CH

LL = 92 PI = 57
Grading soft with some sand

Medium dense grey medium sand - SP

(Silty clay layer)

Very stiff grey silty clay (Bay Mud) - CH

LL = 89 PI = 56

Water Depth - 6 Feet

Log of Boring E5

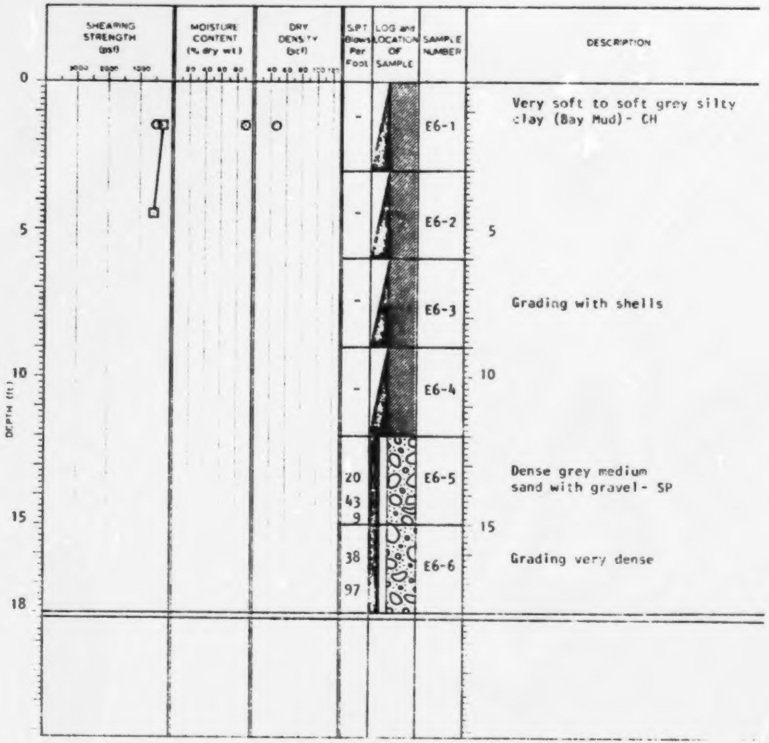
Figure 7

FILE NO 118.1

DATE June 10, 1975

PROJECT South Bay Outfall
Sampling

BORING NO. E6



Very soft to soft grey silty clay (Bay Mud) - CH

Grading with shells

Dense grey medium sand with gravel - SP

Grading very dense

Water Depth - ~6 Feet

Log of Boring E6

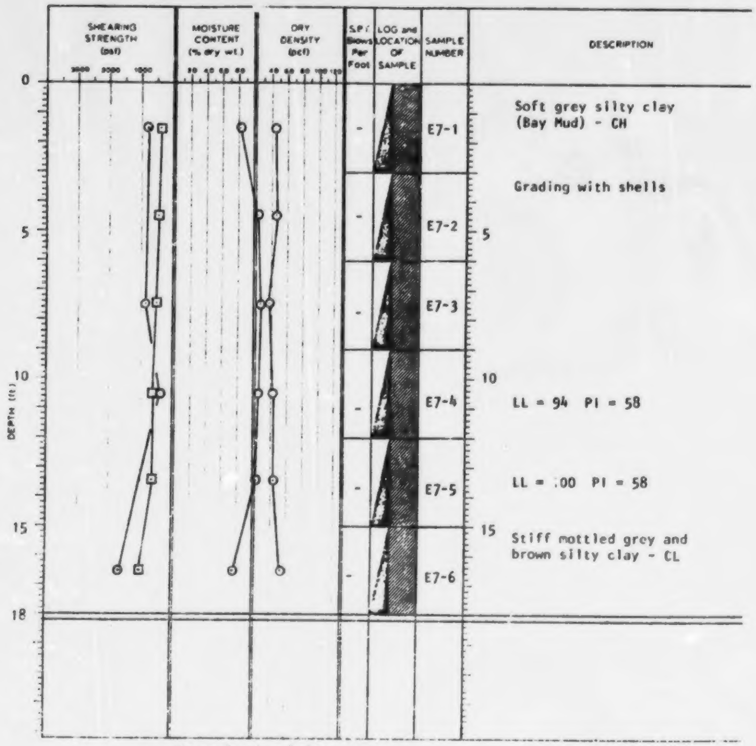
Figure 8

FILE NO 118.1

DATE June 12, 1975

PROJECT South Bay Outfall
Sampling

BORING NO. E7



Soft grey silty clay (Bay Mud) - CH

Grading with shells

LL = 94 PI = 58

LL = 100 PI = 58

Stiff mottled grey and brown silty clay - CL

Water Depth - 4 feet

Log of Boring E7

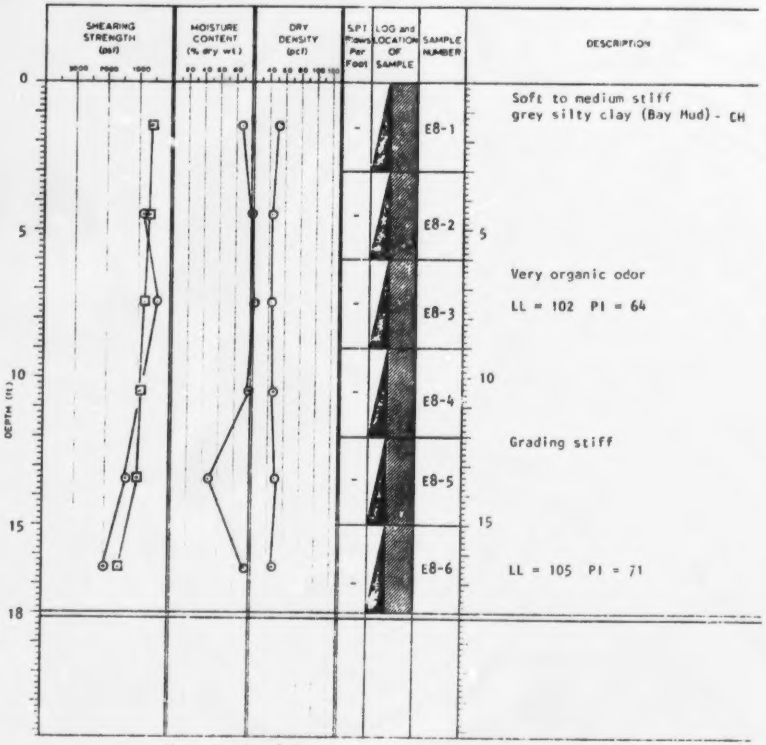
Figure 9

FILE NO 118.1

DATE June 12, 1975

PROJECT South Bay Outfall
Sampling

BORING NO. [illegible]



Soft to medium stiff grey silty clay (Bay Mud) - CH

Very organic odor

LL = 102 PI = 64

Grading stiff

LL = 105 PI = 71

Water Depth - 4 Feet

Log of Boring E8

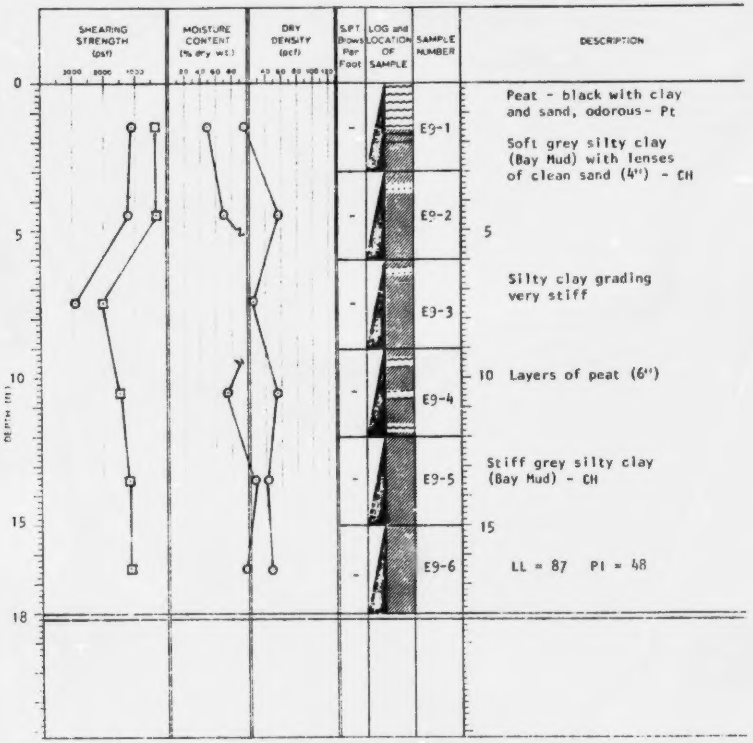
Figure 10

FILE NO 118.1

DATE June 12, 1975

PROJECT South Bay Outfall Sampling

BORING NO. E9



Water Depth - 3 Feet

Log of Boring E9

Figure 11

PACIFIC ENVIRONMENTAL LABORATORY
657 HOWARD STREET
SAN FRANCISCO CALIF 94105
TELEPHONE (415) [illegible]

8 August 1975

R. C. Harlan & Associates
Suite 401, 55 New Montgomery Street
San Francisco, Ca. 94105

Attention: Mr. R. C. Harlan

Subject: Laboratory Analysis of Core Sample for South Bay Dischargers Authority - Water Quality Management Program (5048)

Gentlemen:

As authorized, the laboratory analysis of the core samples from the South Bay Dischargers Authority's proposed pipeline route have been completed and the results transmitted as attached. A description of the laboratory methodology of analyses and quality control procedures are described as follows:

ANALYTICAL QUALITY CONTROL PROGRAM

An Analytical Quality Control Program was conducted during the laboratory processing of the core samples. The primary objective of the program was to determine the reliability and accuracy of the methods used and the assurance of the quality analysis performed. The Analytical Quality Control Program Statement is presented herein.

1. CORE SAMPLE PROCESSING

All of the core samples were delivered to the laboratory in polyethylene bags by Harlan and Associates personnel. On the date the core samples were received, each sample was logged-in and assigned a laboratory sample number. The core samples were then transferred into wide mouth polyethylene jars and were stored in an iced box, except for the period when an aliquot of core sample was removed for analysis during the analytical period.

2. ANALYTICAL METHODS

a. Particle Size

The analytical method used for the particle size classification was as outlined in Appendix C of the "Water Quality Control Plan Ocean Waters of California", State Resources Control Board, 1972, except only one sieve, U.S. Sieve No. 200, was used.

b. Metals, Oil and Grease

The analytical methods used for the dry solids, metals (cadmium, lead, zinc and mercury) and "oil and grease" were in accordance with the

"Preliminary Sampling and Analytical Procedures for Evaluating the Disposal of Dredged Materials", April, 1974, Region IX, Environmental Protection with the following exception:

> [A Soxhlet extraction of "oil and grease" was performed using Freon 113 as the solvent, as recommended by the "Manual of Methods for Chemical Analysis of Water and Wastes", 1974 of the Environmental Protection Agency.]

The chelating-extracting solvent of cadmium, lead and zinc was ammonium pyrrolidine dithiocarbamate (APDC) and methyl isobutyl ketone (MIBK). This extract of the metal compounds was then analyzed by an atomic absorption spectrophotometer. The mercury analysis was by the cold vapor flameless atomic absorption spectrophotometer method.

3. PRECISION AND ACCURACY

A minimum of ten (10) percent or more of the core samples were randomly selected and processed as routine samples and the precision and accuracy of the method determined.

The precision and the accuracy are defined as follows:

a) Precision represents the reproducibility of the method among replicate analyses and expressed in standard deviation, s.

b) Accuracy of the analytical method was determined by adding a known amount of a particular constituent to an actual sample and determining the proportion recovered of this particular constituent. These results are expressed in % Recovery (R). The level of the constituents referred to herein are on an oven dry weight basis.

(1) Dry Solids

The analytical results of the core samples are based on the oven dry basis. The dry solids content of the core samples ranged from 38.0% to 82.7%. The precision of the method was determined and is shown on Table I.

TABLE I

PRECISION DATA FOR DRY SOLIDS ANALYSIS

Dry Solids	Precision
44.5%	±0.3%
47.6	±0.3
49.6	±0.7
75.6	±0.8
77.0	±0.5
78.0	±1.1

(2) Mercury

All mercury analysis were performed in triplicate. The precision data are summarized and shown on Table II.

TABLE II

PRECISION DATA FOR MERCURY ANALYSIS

Mercury, Range Mg/Kgm	Range of Precision Mg/Kgm	mean, s
0.010 - 0.099	(±0.005) to (±0.017)	± 0.008
0.100 - 0.0390	(±0.012) to (±0.042)	± 0.027
0.500 - .670	(±0.023) to (±0.090)	± 0.045

The accuracy of the mercury analytical method was determined by adding a known amount of mercury and determining the recovery rate.

TABLE III

ACCURACY DATA FOR MERCURY ANALYSIS

Hg Mg/Kgm	Hg Added Mg/Kgm	Hg Recovery %
0.714	0.181	98
0.714	0.163	100
0.714	0.176	102
0.651	0.149	93
0.651	0.151	97
0.651	0.153	88
0.665	0.173	99
0.665	0.154	100
0.665	0.157	106
0.665	0.178	101
0.665	0.156	102
0.068	0.106	91
0.068	0.095	122
0.068	0.105	107
0.551	0.150	100
0.551	0.159	103
0.551	0.177	104
0.091	0.157	101
0.091	0.153	114
0.091	0.159	123

(3) Cadmium

Cadmium was not detected in any of the core samples analyzed. The accuracy data was developed by adding a known amount of a standard cadmium compound and determining the proportionate recovery. The results are shown on Table IV.

TABLE IV

ACCURACY DATA FOR CADMIUM ANALYSIS

Cd Mg/Kgm	Cd Added Mg/Kgm	Cd Recovery %
<1.0	5.0	100
<1.0	5.0	100
<1.0	5.0	100
<1.2	5.3	89
<1.2	5.3	91
<1.2	2.6	100
<1.7	8.3	100
<1.7	8.2	100
<1.7	4.1	100
<1.6	8.2	100
<1.6	8.0	110
<1.6	3.9	121
<1.5	16.1	95
<1.5	14.6	80
<1.5	7.7	100
<1.5	7.9	100
<1.5	3.9	100
<1.7	18.0	85
<1.7	18.0	85
<1.7	9.1	90

(4) Lead

The accuracy data for lead was determined by the proportionate recovery of the known amount of a standard lead compound added to the actual core samples. The precision and the accuracy data are as shown on Table V.

TABLE V

PRECISION AND ACCURACY DATA FOR LEAD ANALYSIS

Pb Mg/Kgm	Precision Mg/Kgm	Pb Added Mg/Kgm	Pb Recovery %
4.5	±0.5	5.0	105
4.5	-	5.0	96
4.5	-	2.0	118
7.9	±1.6	5.3	89
7.9	-	5.3	120
7.9	-	2.6	75
9.4	±1.0	8.3	94
9.4	-	8.2	94
9.4	-	4.1	92
15.5	±6.5	-	-
15.5	-	-	-
15.5	-	-	-
17.3	±1.3	16.1	96
17.3	-	14.6	92
17.3	-	7.7	92
17.3	-	7.9	125
17.3	-	3.9	92
8.6	±0.3	18.0	101
8.6	-	18.0	102
8.6	-	9.1	129

(5) Zinc

The precision and the accuracy data developed for Zinc are shown on Table VI.

TABLE VI

PRECISION AND ACCURACY DATA FOR ZINC ANALYSIS

Zn Mg/Kgm	Precision Mg/Kgm	Zn Added Mg/Kgm	Zinc Recovery %
33.4	±2.3	5.0	99
33.4	-	5.0	127
33.4	-	2.0	101
62.8	±8.5	5.3	70
62.8	-	5.3	87
62.8	-	2.6	79
64.3	±4.2	8.3	119
64.3	-	8.2	103
64.3	-	4.1	103
87.4	±7.5	16.1	105
87.4	-	14.6	86
87.4	-	7.7	87
87.4	-	7.9	87
87.4	-	3.9	89
64.3	±4.0	18.0	98
64.3	-	18.0	93
64.3	-	9.1	80

(6) Oil amd Grease

The accuracy data for "oil and grease analysis was determined by adding a known amount of motor oil (Shell motor oil 30W) and determining the proportionate recovery. The precision and the accuracy data for the "oil and grease" analysis are shown on Table VII.

R. C. Harlan & Associates
8 August 1975
Page 8

TABLE VII

PRECISION AND ACCURACY DATA FOR OIL AND GREASE ANALYSIS

Oil/Grease Mg/Kgm	Precision Mg/Kgm	Oil Added Mg/Kgm	Oil Recovery %
850	±200	4,400	78
850	-	6,030	68
850	-	5,300	81
850	-	4,800	61
850	-	4,680	59
1290	±280	3,280	58
1290	-	3,940	56
1290	-	4,310	58
605	±40	3,960	81
605	-	3,290	87
605	-	3,150	73
350	±60	3,160	58
350	-	3,000	50
350	-	2,270	70
500	±35	3,110	67
500	-	3,780	60
500	-	3,510	48

(7) Particle Size

The particle size distribution reported are based on single analysis. The precision analysis were not conducted.

We are available to discuss any matters relating to these laboratory analyses in further detail.

Very truly yours,

PACIFIC ENVIRONMENTAL LABORATORY

Robert A. Ryder
Director

RAR:fb

PEL 5042

PACIFIC ENVIRONMENTAL LABORATORY
657 Howard Street, San Francisco 94105
Phone (415) 362-6065

Received 6/10/75
Reported 8/7/75

REPORT OF CORE SAMPLE ANALYSES

Page 1

FOR R. C. HARLAN AND ASSOCIATES REPORT TO MR. R. C. HARLAN

ADDRESS SUITE 401, 55 NEW MONTGOMERY STREET, SAN FRANCISCO, CA. 94105

LAB NO.		752494	752495	752496	752497
SOURCE OF SAMPLE:		E1-1	E1-2	E1-3	E1-4
South Bay Dischargers Authority					
TREATMENT:					
DATE COLLECTED:		--	--	--	--
TIME COLLECTED:					
Collected by: R. C. Harlan and Associates					
	Units	**ANALYTICAL RESULTS**			
Particle Size Greater than U.S. Sieve Size No. 200	% (1)	41.4	74.0	72.3	78.5
Mercury (Hg) (2)	Mg/Kgm (1)	0.328	0.061	0.053	0.082
Cadmium (Cd) (3)	Mg/Kgm (1)	<1.2	<0.9	<0.9	<1.0
Lead (Pb) (3)	Mg/Kgm (1)	14.6	7.0	6.6	4.5
Zinc (Zn) (3)	Mg/Kgm (1)	75.8	38.7	29.3	33.4
Oil and Grease	Mg/Kgm (1)	485	194	157	148

COMMENTS:
(1) Oven Dry Weight Basis
(2) Analysis by Flameless Atomic Absorption Spectrophotometer
(3) Analysis by Atomic Absorption Spectrophotometer
(4) For analytical methods, see Analytical Quality Control Statement

Analysis by: "Preliminary Sampling and Analytical Procedures for Evaluating the Disposal of Dredged Materials." April, 1974, Region IX, Environmental Protection Agency.

TN, SPR, NH, CS Analyst

R A Ryder Director

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REPORT OF CORE SAMPLE ANALYSES

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FOR R. C. HARLAN AND ASSOCIATES REPORT TO MR. R. C. HARLAN

ADDRESS SUITE 401, 55 NEW MONTGOMERY STREET, SAN FRANCISCO, CA. 94105

LAB NO.		752498	752499		
SOURCE OF SAMPLE:		E1-5	E1-6		
South Bay Dischargers Authority					
TREATMENT:					
DATE COLLECTED:		--	--		
TIME COLLECTED:					
Collected by: R. C. Harlan and Associates					
	Units	**ANALYTICAL RESULTS**			
Particle Size Greater than U.S. Sieve Size No. 200	% (1)	73.7	80.7		
Mercury (Hg) (2)	Mg/Kgm (1)	0.071	0.065		
Cadmium (Cd) (3)	Mg/Kgm (1)	<0.9	<0.9		
Lead (Pb) (3)	Mg/Kgm (1)	4.3	4.3		
Zinc (Zn) (3)	Mg/Kgm (1)	32.1	29.8		
Oil and Grease	Mg/Kgm (1)	114	131		

COMMENTS:
(1) Oven Dry Weight Basis
(2) Analysis by Flameless Atomic Absorption Spectrophotometer
(3) Analysis by Atomic Absorption Spectrophotometer
(4) For analytical methods, see Analytical Quality Control Statement

Analysis by: "Preliminary Sampling and Analytical Procedures for Evaluating the Disposal of Dredged Materials" April, 1974, Region IX, Environmental Protection Agency.

TM, SDR, MH, CB Analyst

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REPORT OF CORE SAMPLE ANALYSES

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FOR R. C. HARLAN AND ASSOCIATES REPORT TO MR. R. C. HARLAN

ADDRESS SUITE 401, 55 NEW MONTGOMERY STREET, SAN FRANCISCO, CA. 94105

LAB NO.		752501	752502	752503	752504
SOURCE OF SAMPLE:		E2-1	E2-2	E2-3	E2-4
South Bay Dischargers Authority					
TREATMENT:					
DATE COLLECTED:		--	--	--	--
TIME COLLECTED:					
Collected by: R. C. Harlan and Associates					
	Units	**ANALYTICAL RESULTS**			
Particle Size Greater than U.S. Sieve Size No. 200	% (1)	3.3	1.0	1.4	5.4
Mercury (Hg) (2)	Mg/Kgm (1)	0.714	0.589	0.564	0.591
Cadmium (Cd) (3)	Mg/Kgm (1)	<1.7	<1.8	<1.7	<1.7
Lead (Pb) (3)	Mg/Kgm (1)	20.8	17.7	16.4	10.5
Zinc (Zn) (3)	Mg/Kgm (1)	66.4	69.2	72.4	59.4
Oil and Grease	Mg/Kgm (1)	1,030	1,060	762	746

COMMENTS:
(1) Oven Dry Weight Basis
(2) Analysis by Flameless Atomic Absorption Spectrophotometer
(3) Analysis by Atomic Absorption Spectrophotometer
(4) For analytical methods, see Analytical Quality Control Statement

Analysis by: "Preliminary Sampling and Analytical Procedures for Evaluating the Disposal of Dredged Materials" April, 1974, Region IX, Environmental Protection Agency.

TM, SDR, MH, CB Analyst

R.A. Ryder Director
R. A. Ryder

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REPORT OF CORE SAMPLE ANALYSES

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FOR R. C. HARLAN AND ASSOCIATES REPORT TO MR. R. C. HARLAN

ADDRESS SUITE 401, 55 NEW MONTGOMERY STREET, SAN FRANCISCO, CA. 94105

LAB NO.		752505	752506		
SOURCE OF SAMPLE:		E2-5	E2-6		
South Bay Dischargers Authority					
TREATMENT:					
DATE COLLECTED:		--	--		
TIME COLLECTED: Collected by: R. C. Harlan and Associates					
	Units	ANALYTICAL RESULTS			
Particle Size Greater than U.S. Sieve Size No. 200	% (1)	33.3	3.4		
Mercury (Hg) (2)	Mg/Kgm (1)	0.180	0.136		
Cadmium (Cd) (3)	Mg/Kgm (1)	<1.6	<1.2		
Lead (Pb) (3)	Mg/Kgm (1)	7.8	7.9		
Zinc (Zn) (3)	Mg/Kgm (1)	49.8	62.8		
Oil and Grease	Mg/Kgm (1)	600	139		

COMMENTS:
(1) Oven Dry Weight Basis
(2) Analysis by Flameless Atomic Absorption Spectrophotometer
(3) Analysis by Atomic Absorption Spectrophotometer
(4) For analytical methods, see Analytical Quality Control Statement

Analysis by: "Preliminary Sampling and Analytical Procedures for Evaluating the Disposal of Dredged Materials" April, 1974, Region IX, Environmental Protection Agency.

TN, SDR, NJ, CB Analyst
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REPORT OF CORE SAMPLE ANALYSES

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FOR R. C. HARLAN AND ASSOCIATES REPORT TO MR. R. C. HARLAN

ADDRESS SUITE 401, 55 NEW MONTGOMERY STREET, SAN FRANCISCO, CA. 94105

LAB NO.		752507	752508	752509	752510
SOURCE OF SAMPLE:		E3-1	E3-2	E3-3	E3-4
South Bay Dischargers Authority					
TREATMENT:					
DATE COLLECTED:		--	--	--	--
TIME COLLECTED: Collected by: R. C. Harlan and Associates					
	Units	ANALYTICAL RESULTS			
Particle Size Greater than U.S. Sieve Size No. 200	% (1)	1.4	3.9	6.2	12.9
Mercury (Hg) (2)	Mg/Kgm (1)	0.440	0.556	0.651	0.136
Cadmium (Cd) (3)	Mg/Kgm (1)	<1.7	<1.8	<1.6	<1.5
Lead (Pb) (3)	Mg/Kgm (1)	29.5	26.3	16.4	11.0
Zinc (Zn) (3)	Mg/Kgm (1)	118	103	81.1	73.6
Oil and Grease	Mg/Kgm (1)	756	850	692	205

COMMENTS:
(1) Oven Dry Weight Basis
(2) Analysis by Flameless Atomic Absorption Spectrophotometer
(3) Analysis by Atomic Absorption Spectrophotometer
(4) For analytical methods, see Analytical Quality Control Statement

Analysis by: "Preliminary Sampling and Analytical Procedures for Evaluating the Disposal of Dredged Materials" April, 1974, Region IX, Environmental Protection Agency.

TN, SDR, NJ, CB Analyst
R.A. Ryder Director
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REPORT OF CORE SAMPLE ANALYSES

FOR R. C. HARLAN AND ASSOCIATES REPORT TO MR. R. C. HARLAN

ADDRESS SUITE 401, 55 NEW MONTGOMERY STREET, SAN FRANCISCO, CA. 94105

LAB NO.		752511	752512		
SOURCE OF SAMPLE:		E3-5	E3-6		
South Bay Dischargers Authority					
TREATMENT:					
DATE COLLECTED:		--	--		
TIME COLLECTED: Collected by: R. C. Harlan and Associates					
	Units	ANALYTICAL RESULTS			
Particle Size Greater Than U.S. Sieve Size No. 200	% (1)	32.8	15.5		
Mercury (Hg) (2)	Mg/Kgm (1)	0.114	0.122		
Cadmium (Cd) (3)	Mg/Kgm (1)	<1.4	<1.1		
Lead (Pb) (3)	Mg/Kgm (1)	10.4	8.1		
Zinc (Zn) (3)	Mg/Kgm (1)	58.0	51.7		
Oil and Grease	Mg/Kgm (1)	405	220		

COMMENTS:
(1) Oven Dry Weight Basis
(2) Analysis by Flameless Atomic Absorption Spectrophotometer
(3) Analysis by Atomic Absorption Spectrophotometer
(4) For analytical methods, see Analytical Quality Control Statement

Analysis by: "Preliminary Sampling and Analytical Procedures for Evaluating the Disposal of Dredged Materials" April, 1974, Region IX, Environmental Protection Agency.

TN, SVP, MM, CB Analyst

R. A. Rider Director
R. A. Rideri

PEL 5042

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Received 7/31/75

Reported 8/7/75

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REPORT OF CORE SAMPLE ANALYSES

OR R. C. HARLAN AND ASSOCIATES REPORT TO MR. R. C. HARLAN

DDRESS SUITE 401, 55 NEW MONTGOMERY STREET, SAN FRANCISCO, CA. 94105

AB NO.		752513	752514	752515	752516
OURCE OF SAMPLE:		E4-1	E4-2	E4-3	E4-4
South Bay Dischargers Authority					
REATMENT:					
E COLLECTED:		--	--	--	--
IME COLLECTED: Collected by: R. C. Harlan and Associates					
	Units	ANALYTICAL RESULTS			
article Size Greater han U.S. Sieve Size No. 200	% (1)	1.5	1.2	1.6	1.6
ercury (Hg) (2)	Mg/Kgm (1)	0.529	0.589	0.581	0.505
admium (Cd) (3)	Mg/Kgm (1)	<1.8	<1.8	<1.7	<1.7
ead (Pb) (3)	Mg/Kgm (1)	31.0	27.2	19.0	21.4
inc (Zn) (3)	Mg/Kgm (1)	110	85.2	78.5	63.3
il and Grease	Mg/Kgm (1)	1,290	695	662	776

OMMENTS:
(1) Oven Dry Weight Basis
(2) Analysis by Flameless Atomic Absorption Spectrophotometer
(3) Analysis by Atomic Absorption Spectrophotometer
(4) For analytical methods, see Analytical Quality Control Statement

Analysis by: "Preliminary Sampling and Analytical Procedures for Evaluating the Disposal of Dredged Materials" April, 1974, Region IX, Environmental Protection Agency.

TN, SVP, MM, CB Analyst

R. A. Rider Director

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Reported 8/7/75

REPORT OF CORE SAMPLE ANALYSIS

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FOR R. C. HARLAN AND ASSOCIATES **REPORT TO** MR. R. C. HARLAN

ADDRESS SUITE 401, 55 NEW MONTGOMERY STREET, SAN FRANCISCO, CA. 94105

LAB NO.		752517	752518		
SOURCE OF SAMPLE:		E4-5	E4-6		
South Bay Dischargers Authority					
TREATMENT:					
DATE COLLECTED:		--	--		
TIME COLLECTED:					
Collected by: R. C. Harlan and Associates					
	Units	**ANALYTICAL RESULTS**			
Particle Size Greater Than U.S. Sieve Size No. 200	% (1)	6.4	1.5		
Mercury (Hg) (2)	Mg/Kgm (1)	0.380	0.671		
Cadmium (Cd) (3)	Mg/Kgm (1)	<1.4	<1.7		
Lead (Pb) (3)	Mg/Kgm (1)	7.2	9.4		
Zinc (Zn) (3)	Mg/Kgm (1)	49.9	64.3		
Oil and Grease	Mg/Kgm (1)	439	401		

COMMENTS:
(1) Oven Dry Weight Basis
(2) Analysis by Flameless Atomic Absorption Spectrophotometer
(3) Analysis by Atomic Absorption Spectrophotometer
(4) For analytical methods, see Analytical Quality Control Statement

Analysis by: "Preliminary Sampling and Analytical Procedures for Evaluating the Disposal of Dredged Material," April, 1974, Region IX, Environmental Protection Agency.

RA, HM, SB, CE Analyst
R.A. R. Director

PEL [illegible]

PACIFIC ENVIRONMENTAL LABORATORY
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REPORT OF CORE SAMPLE ANALYSIS

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FOR R. C. HARLAN AND ASSOCIATES **REPORT TO** MR. R. C. HARLAN

ADDRESS SUITE 401, 55 NEW MONTGOMERY STREET, SAN FRANCISCO, CA. 94105

LAB NO.		752519	752520	752521	752522
SOURCE OF SAMPLE:		E5-1	E5-2	E5-3	E5-4
South Bay Dischargers Authority					
TREATMENT:					
DATE COLLECTED:		--	--	--	--
TIME COLLECTED:					
Collected by: R. C. Harlan and Associates					
	Units	**ANALYTICAL RESULTS**			
Particle Size Greater Than U.S. Sieve Size No. 200	% (1)	<1.0	<1.0	75.6	90.[illegible]
Mercury (Hg) (2)	Mg/Kgm (1)	0.618	0.665	0.029	0.045
Cadmium (Cd) (3)	Mg/Kgm (1)	<1.7	<1.8	<1.0	<1.0
Lead (Pb) (3)	Mg/Kgm (1)	8.6	8.8	14.8	14.4
Zinc (Zn) (3)	Mg/Kgm (1)	75.3	83.0	71.6	6[illegible].9
Oil and Grease	Mg/Kgm (1)	573	592	[illegible]	125

COMMENTS:
(1) Oven Dry Weight Basis
(2) Analysis by Flameless Atomic Absorption Spectrophotometer
(3) Analysis by Atomic Absorption Spectrophotometer
(4) For analytical methods, see Analytical Quality Control Statement

Analysis by: "Preliminary Sampling and Analytical Procedures for Evaluating the Disposal of Dredged Material," April, 1974, Region IX, Environmental Protection Agency.

RA, HM, SB, CE Analyst
R.A. R.

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Phone (415) 362-6065

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REPORT OF CORE SAMPLE ANALYSES

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LAB NO.		752523	752524		
SOURCE OF SAMPLE:		E5-5	E5-6		
South Bay Dischargers Authority					
TREATMENT:					
DATE COLLECTED:		--	--		
TIME COLLECTED:					
Collected by: R. C. Harlan and Associates					
	Units	ANALYTICAL RESULTS			
Particle Size Greater than U.S. Sieve Size No. 200	% (1)	83.1	5.1		
Mercury (Hg) (2)	Mg/Kgm (1)	0.033	0.094		
Cadmium (Cd) (3)	Mg/Kgm (1)	<1.0	<1.5		
Lead (Pb) (3)	Mg/Kgm (1)	21.0	18.3		
Zinc (Zn) (3)	Mg/Kgm (1)	69.9	87.7		
Oil and Grease	Mg/Kgm (1)	162	266		

COMMENTS:
(1) Oven Dry Weight Basis
(2) Analysis by Flameless Atomic Absorption Spectrophotometer
(3) Analysis by Atomic Absorption Spectrophotometer
(4) For analytical methods, see Analytical Quality Control Statement

Analyzed by: "Preliminary Sampling and Analytical Procedures for Evaluating the Disposal of Dredged Material," April, 1974, Region IX, Environmental Protection Agency.

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[illegible] Director

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LAB NO.		752525	752526	752527	752528
SOURCE OF SAMPLE:		E6-1	E6-2	E6-3	E6-4
South Bay Dischargers Authority					
TREATMENT:					
DATE COLLECTED:		--	--	--	--
TIME COLLECTED:					
Collected by: R. C. Harlan and Associates					
	Units	ANALYTICAL RESULTS			
Particle Size Greater than U.S. Sieve Size No. 200	% (1)	7.4	6.7	71.5	29.4
Mercury (Hg) (2)	Mg/Kgm (1)	0.558	0.559	0.112	0.068
Cadmium (Cd) (3)	Mg/Kgm (1)	<1.6	<1.7	<1.7	<1.4
Lead (Pb) (3)	Mg/Kgm (1)	15.5	16.9	8.4	6.9
Zinc (Zn) (3)	Mg/Kgm (1)	84.6	74.4	46.5	51.4
Oil and Grease	Mg/Kgm (1)	358	605	319	[illegible]

COMMENTS:
(1) Oven Dry Weight Basis
(2) Analysis by Flameless Atomic Absorption Spectrophotometer
(3) Analysis by Atomic Absorption Spectrophotometer
(4) For analytical methods, see Analytical Quality Control Statement

Analyzed by: "Preliminary Sampling and Analytical Procedures for Evaluating the Disposal of Dredged Material," April, 1974, Region IX, Environmental Protection Agency.

[illegible] Analyst

[illegible] Director

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FOR R. C. HARLAN AND ASSOCIATES REPORT TO MR. R. C. HARLAN

ADDRESS SUITE 401, 55 NEW MONTGOMERY STREET, SAN FRANCISCO, CA. 94105

LAB NO.		752529	752530		
SOURCE OF SAMPLE:		E6-5	E6-6		
South Bay Dischargers Authority					
TREATMENT:					
DATE COLLECTED:		--	--		
TIME COLLECTED:					
Collected by: R. C. Harlan and Associates					
	Units	**ANALYTICAL RESULTS**			
Particle Size Greater than U.S. Sieve Size No. 200	% (1)	54.9	25.1		
Mercury (Hg) (2)	Mg/Kgm (1)	0.088	0.068		
Cadmium (Cd) (3)	Mg/Kgm (1)	<1.0	<1.1		
Lead (Pb) (3)	Mg/Kgm (1)	7.4	8.0		
Zinc (Zn) (3)	Mg/Kgm (1)	38.6	<1.1		
Oil and Grease	Mg/Kgm (1)	126	108		

COMMENTS:
(1) Oven Dry Weight Basis
(2) Analysis by Flameless Atomic Absorption Spectrophotometer
(3) Analysis by Atomic Absorption Spectrophotometer
(4) For analytical methods, see Analytical Quality Control Statement

Analysis by: "Preliminary Sampling and Analytical Procedures for Evaluating the Disposal of Dredged Materials," April, 1974, Region IX, Environmental Protection Agency.

R. A. [illegible]

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FOR R. C. HARLAN AND ASSOCIATES REPORT TO MR. R. C. HARLAN

ADDRESS SUITE 401, 55 NEW MONTGOMERY STREET, SAN FRANCISCO, CA. 94105

LAB NO.		752548	752549	752550	752551
SOURCE OF SAMPLE:		E7-1	E7-2	E7-3	E7-4
South Bay Dischargers Authority					
TREATMENT:					
DATE COLLECTED:		--	--	--	--
TIME COLLECTED:					
Collected by: R. C. Harlan and Associates					
	Units	**ANALYTICAL RESULTS**			
Particle Size Greater than U.S. Sieve Size No. 200	% (1)	<1.0	<1.0	<1.0	<1.0
Mercury (Hg) (2)	Mg/Kgm (1)	0.643	0.643	0.544	0.551
Cadmium (Cd) (3)	Mg/Kgm (1)	<1.6	<1.6	<1.7	<1.8
Lead (Pb) (3)	Mg/Kgm (1)	27.7	24.2	12.5	8.8
Zinc (Zn) (3)	Mg/Kgm (1)	94.9	96.9	69.8	79.5
Oil and Grease	Mg/Kgm (1)	500	[illegible]	[illegible]	[illegible]

COMMENTS:
(1) Oven Dry Weight Basis
(2) Analysis by Flameless Atomic Absorption Spectrophotometer
(3) Analysis by Atomic Absorption Spectrophotometer
(4) For analytical methods, see Analytical Quality Control Statement

Analysis by: "Preliminary Sampling and Analytical Procedures for Evaluating the Disposal of Dredged Materials," April, 1974, Region IX, Environmental Protection Agency.

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FOR R. C. HARLAN AND ASSOCIATES REPORT TO MR. R. C. HARLAN

ADDRESS SUITE 401, 55 NEW MONTGOMERY STREET, SAN FRANCISCO, CA. 94105

LAB NO.		752552	752553		
SOURCE OF SAMPLE:		E7-5	E7-6		
South Bay Dischargers Authority					
TREATMENT:					
DATE COLLECTED:		--	--		
TIME COLLECTED: Collected by: R. C. Harlan and Associates					
	Units	ANALYTICAL RESULTS			
Particle Size Greater than U.S. Sieve Size No. 200	% (1)	<1.0	<1.0		
Mercury (Hg) (2)	Mg/Kgm (1)	0.580	0.354		
Cadmium (Cd) (3)	Mg/Kgm (1)	<1.8	<1.5		
Lead (Pb) (3)	Mg/Kgm (1)	8.8	7.7		
Zinc (Zn) (3)	Mg/Kgm (1)	93.4	81.8		
Oil and Grease	Mg/Kgm (1)	1050	645		

COMMENTS:
(1) Oven Dry Weight Basis
(2) Analysis by Flameless Atomic Absorption Spectrophotometer
(3) Analysis by Atomic Absorption Spectrophotometer
(4) For analytical methods, see Analytical Quality Control Statement

Analyzed by: "Preliminary Sampling and Analytical Procedures for Evaluating the Disposal of Dredged Material," April, 1974, Region IX, Environmental Protection Agency.

TS, DHS, SB, CB

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FOR R. C. HARLAN AND ASSOCIATES REPORT TO MR. R. C. HARLAN

ADDRESS SUITE 401, 55 NEW MONTGOMERY STREET, SAN FRANCISCO, CA. 94105

LAB NO.		752554	752555	752556	752557
SOURCE OF SAMPLE:		E8-1	E8-2	E8-3	E8-4
South Bay Dischargers Authority					
TREATMENT:					
DATE COLLECTED:		--	--	--	--
TIME COLLECTED: Collected by: R. C. Harlan and Associates					
	Units	ANALYTICAL RESULTS			
Particle Size Greater than U.S. Sieve Size No. 200	% (1)	<1.0	<1.0	2.4	<1.0
Mercury (Hg) (2)	Mg/Kgm (1)	0.550	0.551	0.286	0.107
Cadmium (Cd) (3)	Mg/Kgm (1)	<1.4	<1.5	<1.7	<1.7
Lead (Pb) (3)	Mg/Kgm (1)	26.8	17.3	12.5	8.4
Zinc (Zn) (3)	Mg/Kgm (1)	108	87.4	71.6	78.3
Oil and Grease	Mg/Kgm (1)	34	245	353	199

COMMENTS:
(1) Oven Dry Weight Basis
(2) Analysis by Flameless Atomic Absorption Spectrophotometer
(3) Analysis by Atomic Absorption Spectrophotometer
(4) For analytical methods, see Analytical Quality Control Statement

Analyzed by: "Preliminary Sampling and Analytical Procedures for Evaluating the Disposal of Dredged Material," April, 1974, Region IX, Environmental Protection Agency.

TS, DHS, SB, CB

R.A. Ruder Director
R. A. Ruder

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FOR R. C. HARLAN AND ASSOCIATES REPORT TO MR. R. C. HARLAN

ADDRESS SUITE 401, 55 NEW MONTGOMERY STREET, SAN FRANCISCO, CA. 94105

LAB NO.		752558	752559		
SOURCE OF SAMPLE:		E8-5	E8-6		
South Bay Dischargers Authority					
TREATMENT:					
DATE COLLECTED:		--	--		
TIME COLLECTED: Collected by: R. C. Harlan and Associates					
	Units	ANALYTICAL RESULTS			
Particle Size Greater than U.S. Sieve Size No. 200	% (1)	<1.0	2.2		
Mercury (Hg) (2)	Mg/Kgm (1)	0.101	0.099		
Cadmium (Cd) (3)	Mg/Kgm (1)	<1.9	<1.6		
Lead (Pb) (3)	Mg/Kgm (1)	9.8	8.4		
Zinc (Zn) (3)	Mg/Kgm (1)	74.1	73.4		
Oil and Grease	Mg/Kgm (1)	170	400		

COMMENTS:
(1) Oven Dry Weight Basis
(2) Analysis by Flameless Atomic Absorption Spectrophotometer
(3) Analysis by Atomic Absorption Spectrophotometer
(4) For analytical methods, see Analytical Quality Control Statement

Analysis by: "Preliminary Sampling and Analytical Procedures for Evaluating the Disposal of Dredged Materials" April, 1974, Region IX, Environmental Protection Agency.

TN, SLR, SH, CB Analyst
R.A. Rider Director

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FOR R. C. HARLAN AND ASSOCIATES REPORT TO MR. R. C. HARLAN

ADDRESS SUITE 401, 55 NEW MONTGOMERY STREET, SAN FRANCISCO, CA. 94105

LAB NO.		752560	752561	752562	752563
SOURCE OF SAMPLE:		E9-1	E9-2	E9-3	E9-4
South Bay Dischargers Authority					
TREATMENT:					
DATE COLLECTED:		--	--	--	--
TIME COLLECTED: Collected by: R. C. Harlan and Associates					
	Units	ANALYTICAL RESULTS			
Particle Size Greater than U.S. Sieve Size No. 200	% (1)	30.7	<1.0	<1.0	<1.0
Mercury (Hg) (2)	Mg/Kgm (1)	0.357	0.389	0.243	<0.100
Cadmium (Cd) (3)	Mg/Kgm (1)	<1.5	<1.4	<1.7	<2.0
Lead (Pb) (3)	Mg/Kgm (1)	14.7	20.7	8.6	10.2
Zinc (Zn) (3)	Mg/Kgm (1)	69.8	75.8	64.3	62.5
Oil and Grease	Mg/Kgm (1)	393	105	400	1,040

COMMENTS:
(1) Oven Dry Weight Basis
(2) Analysis by Flameless Atomic Absorption Spectrophotometer
(3) Analysis by Atomic Absorption Spectrophotometer
(4) For analytical methods, see Analytical Quality Control Statement

Analysis by: "Preliminary Sampling and Analytical Procedures for Evaluating the Disposal of Dredged Materials" April, 1974, Region IX, Environmental Protection Agency.

TN, SLR, SH, CB Analyst
Director

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FOR R. C. HARLAN AND ASSOCIATES REPORT TO MR. R. C. HARLAN

ADDRESS SUITE 401, 55 NEW MONTGOMERY STREET, SAN FRANCISCO, CA. 94105

LAB NO.		752564	752565		
SOURCE OF SAMPLE:		E9-5	E9-6		
South Bay Dischargers Authority					
TREATMENT:					
DATE COLLECTED:		--	--		
TIME COLLECTED:					

Collected by: R. C. Harlan and Associates

	Units	ANALYTICAL RESULTS			
Particle Size Greater than U.S. Sieve Size No. 200	% (1)	<1.0	<1.0		
Mercury (Hg) (2)	Mg/Kgm (1)	0.091	0.093		
Cadmium (Cd) (3)	Mg/Kgm (1)	<1.6	<1.8		
Lead (Pb) (3)	Mg/Kgm (1)	8.2	9.2		
Zinc (Zn) (3)	Mg/Kgm (1)	80.5	82.0		
Oil and Grease	Mg/Kgm (1)	200	490		

COMMENTS:
(1) Oven Dry Weight Basis
(2) Analysis by Flameless Atomic Absorption Spectrophotometer
(3) Analysis by Atomic Absorption Spectrophotometer
(4) For analytical methods, see Analytical Quality Control Statement

Analyzed by: "Preliminary Sampling and Analytical Procedures for Evaluating the Disposal of Dredged Material," April, 1974, Region IX, Environmental Protection Agency.

Appendix C

MATHEMATICAL MODEL OF SOUTH SAN FRANCISCO BAY

From HYDROSCIENCE, Inc.

EVALUATION OF DISCHARGE ALTERNATIVES
FOR SOUTH BAY DISCHARGERS AUTHORITY

Hydroscience, Inc.

December 1975

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HYDROSCIENCE, INC.
Consultants in Water Pollution Control
360 OLD HOOK ROAD
WESTWOOD, NEW JERSEY 07675
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JOHN P. ST. JOHN
ROBERT V. THOMANN
EUGENE D. DRISCOLL

January 19, 1976

Mr. John Peterson
Bechtel Corporation
P.O. Box 3965
San Francisco, California 94119

Re: Evaluation of Discharge Alternatives - South Bay Dischargers Authority

Dear Mr. Peterson:

We are pleased to submit herewith our report entitled, "Evaluation of Discharge Alternatives for South Bay Dischargers Authority".

This report summarizes work which was accomplished to evaluate the impacts of alternative wastewater effluent discharge plans on water quality in South San Francisco Bay and the contiguous waters of small tidal creeks and sloughs. The principal conclusion of this study is summarized as follows:

1. Dissolved oxygen water quality in South San Francisco Bay and the contiguous sloughs is presently below standards. The areas most affected by this condition are the small tidal sloughs where the combined effects of municipal treatment plant loads and largely uncontrollable background loads dominate water quality.

2. Reductions of wastewater loadings through increased treatment, will improve water quality in the South San Francisco Bay region for all of the discharge alternatives considered in this study. These include the No Action alternative, the Nearest Deep Water Discharge alternative and the Disposal Point 31 alternative.

A Division of Hydroscience Associates, Inc.

3. Further improvements in dissolved oxygen and relative toxicity water quality will be realized by relocation of the South Bay dischargers to the Nearest Deep Water Discharge or to Disposal Point 31. However, water quality in the immediate vicinity of such relocated dischargers will be marginal in terms of compliance with water quality standards for dissolved oxygen.

4. The potentially beneficial effects of removing major wastewater dischargers from Artesian and Guadalupe sloughs are minimized by the removal of substantial flushing flow (i.e., effluent flow) from these sloughs. The water quality in the sloughs is apparently dominated by background loads within those sloughs and for this reason is not expected to improve markedly under alternative management plans.

5. Since no single discharge alternate provides total compliance with either the dissolved oxygen standards or the relative toxicity guideline, the merits of alternative programs can be related to water use enhancement associated with each alternate. The analysis presented in this report provides the groundwork for such water quality management decisions.

May we express our appreciation to you and Ms. Carol Harper of your staff for your cooperation and assistance. The contributions of Mrs. Patricia Kehrberger and Mr. Mitchell Small of our engineering staff and Miss Kathleen Whartenby are also gratefully acknowledged.

Respectfully submitted,	Respectfully submitted,
HYDROSCIENCE, INC.	HYDROSCIENCE, INC.
Daniel S. Szumski, P.E.	John P. St. John, P.E.

DSS/JPSJ/kfw
Attachment

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REFERENCES

I. INTRODUCTION

A. Study Objective

Proposed plans of the South Bay Discharger Authority call for the construction of pipeline and a subaqueous outfall to convey treated municipal wastewater effluents from their present locations to a deep water discharge location in lower San Francisco Bay. In this regard, Bechtel Corporation is preparing an environmental impact statement to assess the environmental effects of alternative wastewater management plans. The present study is a supporting document to the environmental impact statement, and is directed toward definition of the water quality impacts of alternative programs considered in the environmental impact analysis. Toward this end, this study utilizes water quality modeling analyses to compare the water quality responses for each alternate, to water quality standards and other guidelines.

The South Bay Dischargers which are the subject of the present study consist of three municipal treatment facilities: San Jose/Santa Clara, Sunnyvale, and Palo Alto. The present Milpitas flow will be diverted to the San Jose/Santa Clara plant. Three other dischargers who were formerly part of the South Bay Dischargers Authority have left the group, since the last study of the region's needs was completed in 1972. The Union Sanitary District and Livermore have joined the Easy Bay Dischargers, while Menlo Park has joined the South Bayside Dischargers. These dischargers are included in the present study in the category of "other dischargers."

B. Description of Alternatives

The four management alternatives considered in this study are:

1. No project. The South Bay Group discharge at their present disposal locations: San Jose/Santa Clara into Artesian Slough; Sunnyvale into Guadalupe Slough; and Palo Alto into Mayfield Slough. "No project" refers to no new conveyances for treated wastewater.

2. Nearest deepwater disposal. Sunnyvale and San Jose/Santa Clara combine and discharge in the channel off Calaveras Point; Palo Alto discharges into the main channel approximately halfway between Calaveras Point and Dumbarton Bridge.

3. Disposal Point 31 (DP 31) - The combined San Jose/Santa Clara, Sunnyvale, and Palo Alto effluents are discharged at DP 31. This refers to a discharge location north of the Dumbarton Bridge, which was recommended as the disposal site for all South Bay Dischargers wastewater in the Consoer-Bechtel 1972 report.

4. No project, with San Jose/Santa Clara upgraded. This alternative is the same as number 1, except that San Jose/Santa Clara provides additional treatment to reduce its effluent ultimate oxygen demand.

Figure 1 is a map of the study area that shows the present discharger locations south of Dumbarton Bridge.

C. Previous Studies

Studies that were performed by Hydroscience, Inc., for Consoer, Townsend, and Associates in 1968(1), and for Consoer-Bechtel in 1972(2), served as the basis for the present study. Both of those studies concluded that calculated assimilation capacities decreased significantly south of Dumbarton Bridge. A recent change in water quality objectives (since 1972), and the need to consider disposal at present discharge locations for some of the alternatives in the present study necessitated a refinement of the South Bay Water Quality Model that was developed during the Consoer-Bechtel study. Additional analyses of observed water quality data and wastewater treatment plant data, provided information pertinent to updating and reverification of this model.

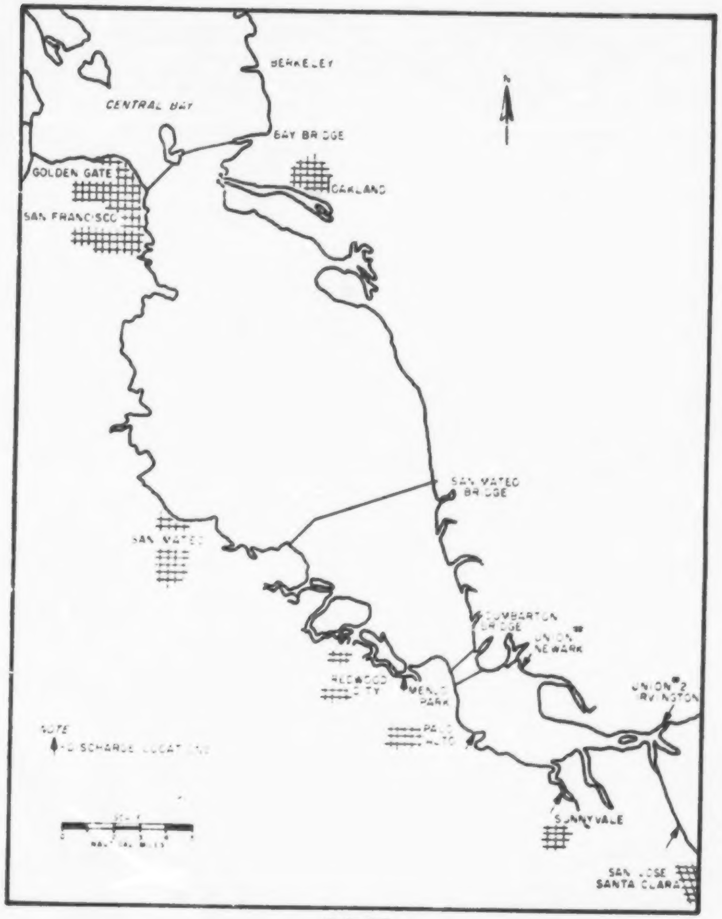
BERKELEY
CENTRAL BAY
BAY BRIDGE
N
GOLDEN GATE
OAKLAND
SAN FRANCISCO
SAN MATEO BRIDGE
SAN MATEO
DUMBARTON BRIDGE
UNION NEWARK
REDWOOD CITY
MENLO PARK
UNION #2 IRVINGTON
NOTE
DISCHARGE LOCATIONS
PALO ALTO
SUNNYVALE
SCALE
0 1 2 3 4 5
NAUTICAL MILES
SAN JOSE SANTA CLARA

FIGURE 1
LOCATION PLAN SOUTH SAN FRANCISCO BAY

II. WATER QUALITY OBJECTIVES

The Regional Water Quality Control Board has established water quality objectives for San Francisco Bay Basin 2. The receiving waters for the wastewater management alternatives examined in this report are within Basin 2, and as such must conform to the following water quality standards:

"Surface Water Quality Objectives for all waters inland from the Golden Gate -

1. Dissolved Oxygen

   For all tidal waters, the following objectives shall apply:

In the Bay downstream of Carquines Bridge	5.0 mg/l minimum
Upstream from Carquinez Bridge	7.0 mg/l minimum

   For nontidal waters, the following objectives shall apply:

Waters designated as cold water habitat	7.0 mg/l minimum
Waters designated as warm water habitat	5.0 mg/l minimum

Areas of Special Biological Significance shall be maintained at a level of protection consistent with natural undegraded conditions uninfluenced by any controllable water quality factor. Where natural factors cause lower concentrations, controllable water quality factors shall not cause further reduction."

"All waters designated as aquatic life habitat shall be maintained at Maintenance Level B, unless otherwise designated. In addition to these limiting numerical objectives, the lower ten percentile dissolved oxygen concentration value shall be determined as a function of dissolved oxygen content at saturation, in accordance with Figure 2."

The absolute minimum D.O. for the study area is 5.0 mg/l and the objective is Level B as shown on Figure 2.

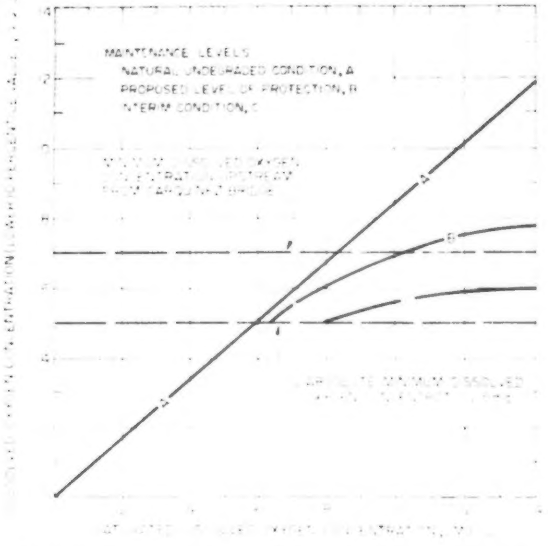

Figure 2 Lower Ninety Percentile Dissolved Oxygen Concentrations

2. Toxicity

"No substance attributable to controllable water quality factors shall be present in waters in concentrations or combinations which are toxic to or which produce detrimental physiological responses in humans, plants, animals or indigenous aquatic life or which create undesirable tastes or odors in organisms utilized for human consumption."

The RWQCB presents a methodology by which toxicity can be used in plan evaluation while, "not considered appropriate as a water quality objective having legal stature and narrow numerical definition."

"The planning approach utilized the concept of toxicity emission rates as defined by the project of effluent flow (mgd) and the effluent toxicity in terms of toxic units (tu). Effluent characteristics including toxic emissions from all discharges to the receiving water segment were used to compute receiving water concentrations. The toxicity concentration (Tc) may be computed as:

$$Tc = \frac{100}{TL_{50}\ (96\ hr)\%}$$

and expressed in toxic units. Where the effluent fails to exhibit a TL_{50} (i.e., 96-hour survival of test organisms exceeds 50 percent in the effluent) the effluent was assumed to have a Tc of one toxic unit unless there existed a rational basis for further reduction. Reductions were considered for wastes where the type and concentration of the toxicant can be readily identified and measured. The procedure for reduction of assumed effluent toxicity concentration below one toxic unit was based on the following three step evaluation procedure:

1. Evaluation of Water Quality Control Features

Indications that the discharger could effect a source control and monitoring program relative to toxicants and could construct treatment processes which would remove toxicants expected in that particular wastewater.

2. Evaluation of Wastewater Characteristics

Demonstration that the effluent consistently results in a bioassay survival greater than 50 percent (i.e., TL_{50} 100 percent) and that the wastewater components substantiate a Tc value lower than unit based on the following relationships:

Where survival (S) of large numbers of test fish was less than 95 percent in a 96-hour bioassay, the following empirical relationship was assumed to apply:

$$Tc = \frac{\log (100-S)}{1.7}$$

Where survival of large numbers of test fish was greater than 95 percent, the above expression was not deemed valid, and the following relationship appeared useful:

$$Tc = \frac{(C_a \quad + \quad C_b \quad + \quad C_n)}{TL_{50_a} \quad TL_{50_b} \quad TL_{50_n}}$$

Where C_a, C_b, and C_n are the concentrations of water quality factors known to exhibit toxic responses in receiving waters such as lead, copper, zinc, cadmium, chromiom, mercury, cyanide, ammonia, phenol, MBAS, chlorine and pesticides. TL_{50} values were established for each potential toxicant identified in composite samples of the wastewater effluent. This expression, however, neglects the effects of synergism and threshold detoxification capability of organisms, and can be significantly in error in some cases.

3. Determination of Dominant Toxicant

Identification of dominant toxicants based on step 2 above and determination of the nature of these materials in the receiving waters: where degradable materials such as ammonia, phenol or cyanide are dominant the assignment of reduced T_c was more liberal than for wastewaters exhibiting dominant toxicants having biomagnification properties such as mercury, cadmium or pesticides."

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B	Report of Exploration and Testing Marine Soil and Sediment, South Bay Dischargers Authority	B-1	1/C1
C	Mathematical Model of South San Francisco Bay	C-1	1/G1
D	San Francisco Bay Receiving Water Quality Data for San Mateo, Sunnyvale, and Union Sanitary Districts	D-1	N/A
E	Water Quality Data Collected by the City of San Jose Department of Public Works, Water Pollution Control Division	E-1	N/A
F	Ambient Noise Survey	F-1	N/A
G	Biological Inventory of South San Francisco Bay	G-1	N/A
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I	Terrestrial and Wetlands Biological Survey, 1975	I-1	N/A
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K	Excerpts from BASSA (1975) Report on Water Quality	K-1	N/A
L	Federal, State, and Regional Laws, Regulations, and Plans	L-1	N/A

Table 1 gives the maximum allowable toxicity concentrations for alternative levels of water quality maintenance, and three biotic sensitivity classes. The estuarine waters in the study area are considered to be of average sensitivity and subject to Class B Maintainance Level.

TABLE 1

WATER QUALITY CRITERIA FOR PESTICIDES AND INSECTICIDES IN FRESH AND SALT WATER HABITATS

Maintenance Level	Sensitivity Class		
	High	Average	Low
A	*	*	*
B	0.03	0.04	0.05
C	0.06	0.08	0.10

*No discharge permitted to areas designated A.

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III. MODEL EXTENSION AND VERIFICATION

A mathematical model was applied to determine the environmental effects of alternative effluent disposal practices that have been proposed for the South Bay dischargers. The mathematical model employed to describe water quality effects in the study area expresses the concentration of quality variables in terms of their steady state distribution. Steady state describes a condition in which the system has achieved equilibrium with its surroundings. Under this circumstance, the water quality characteristics in a region are considered to be constant.

A true steady state is seldom observed in tidal estuaries such as San Francisco Bay, because of constant changes in tidal and non-tidal transport. Steady state conditions which are demonstrated in the model are, therefore, average conditions that represent either inter-tidal or long-term mean distributions, depending upon the time required for the transport system under consideration to achieve equilibrium.

A. Basis of the Mathematical Model

The steady state model is constructed by expressing the concentration of a substance, c, in terms of a two-dimensional mass balance equation, which is given as:

$$\frac{dc}{dt}(x,y) = 0 = -\frac{\partial}{\partial x}(cU_x) - \frac{\partial}{\partial y}(cU_y) + \left[\frac{\partial}{\partial x}\left(E_x\frac{\partial c}{\partial x}\right)\right] + \left[\frac{\partial}{\partial y}\left(E_y\frac{\partial c}{\partial y}\right)\right] - Kc \pm C_w \qquad \text{(III-1)}$$

U_x, U_y = the advective flow in the x and y coordinate directions

E_x, E_y = the two-dimensional dispersion characteristics of the system

K = first order decay rate, associated with substance, c

C_w = external sources and sinks of material, c

The equation is constrained by boundary conditions at the limits of the study area.

An appropriate method of solving Equation (III-1) is a finite segment approximation. With this solution technique, the study area is divided into a system of n interconnected volumes. The size and distribution of the volumes, as well as the transport mechanism between them, reflect the data collected on the physical characteristics of the study area. Equation (III-1) is then expressed as a series of n mass balance equations, describing the mass transfer kinetics around each of the volumes in terms of loading, reaction kinetics, and advective and dispersive transport. In total, these equations can be used to describe the response of the system to the introduction of materials from external sources, such as treated wastewater effluent. A more complete description of the theoretical development of the steady state model is contained in Reference (2).

B. Description of San Francisco Bay Model - 1972

1. Geometry

Figure 3 shows the 1972 segmentation of the Bay system. The ninety-seven segments extend from the confluence of Coyote Creek and Artesian Slough northward to the Golden Gate and Point Richmond. The geometry of the segments represents mean tide conditions. Sloughs and discharge channels were not included in this model.

2. Transport Mechanisms

Mass transport in the model occurs through advective transport and dispersion. The presence of a significant inter-tidal circulation pattern, observed, and predicted by other investigators, in the area between Dumbarton Bridge and Oakland Bay Bridge was further supported in the 1972 report, and is included in the model.

South of Dumbarton Bridge, the major advective transport is the wastewater discharge. Dispersive transport in this area was assigned from analysis of conservative variables.

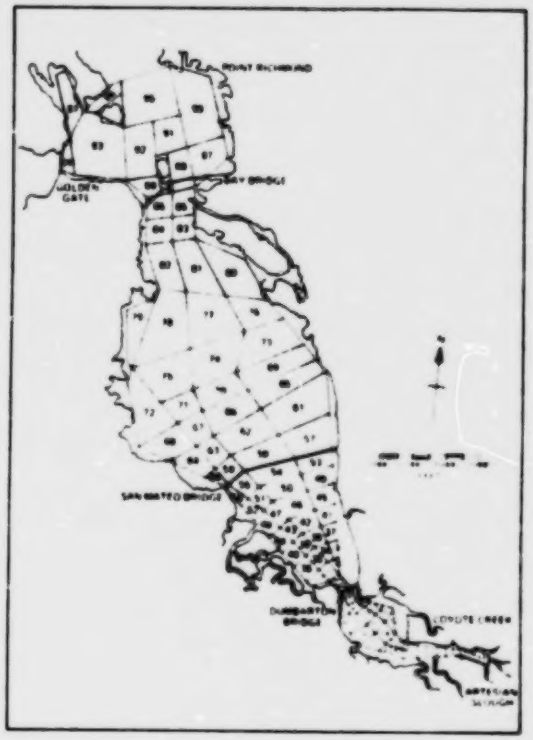

Figure 3, 1972 Model Segmentation

Other transport factors included in the model were Sacramento-San Joaquin Delta outflows, and evaporation and precipitation estimates, where appropriate.

3. Kinetic Systems

The model is appropriate for both conservative and first order reactive water quality parameters. Conservative variables are those which are chemically and biologically non-reactive, such as chlorides, or slowly reactive, such as silica and relative toxicity. Examples of single system reactive variables are coliform organisms, BOD, and ammonia nitrogen. Dissolved oxygen is a coupled system variable, that is; in addition to responding to direct sources and sinks of oxygen, it also responds to oxidation of carbonaceous and nitrogenous BOD.

All reaction rate coefficients are temperature corrected within the model.

4. Verification

The mathematical model developed in 1972 was successfully verified with March 1968 chloride data, Summer 1960-64 silica data, Summer 1960-64 coliform organisms, and dissolved oxygen data for the following periods: Summer 1960-64, March 1968, June 1967, and August 1967. Detailed presentations of the verification procedure and comparisons of calculated distributions with observed data are contained in Appendix B of the Consoer-Bechtel Report, Reference (2).

C. Extension and Update of the 1972 Model For The Present Study

1) Recent Data

Regional Water Quality Control Board regulations require that each discharger to San Francisco Bay maintain treatment plant records and monitor receiving water quality in the vicinity of its discharge. The following is a summary of the self-monitoring data that was reviewed by Hydroscience, Inc., during this study:

(a) San Jose/Santa Clara

San Jose monitors receiving water at nine stations between its discharge and Calaveras Point. The stations are sampled (during high and low tides) once per week from July 1st through October 31st, and twice per month from November 1st through June 30th. The measurements include temperature, dissolved oxygen, dissolved sulfide, pH, and secchi disc. Also available are daily plant records of flow, BOD, and suspended solids, and the results of bioassay tests conducted weekly from January 1973 through September 1975, on pre-chlorinated and post-chlorinated effluent.

(b) Sunnyvale

Sunnyvale monitors two receiving water stations. Annual reports give monthly maximum, average, and minimum values of dissolved oxygen, pH, temperature, ammonia nitrogen, nitrate nitogen, total organic nitrogen, phosphate, and BOD$_5$ loadings. Some bioassay results are also available.

(c) Palo Alto

Measurements of the treatment plant flow, BOD, suspended matter, grease, and some bioassay data are available.

2) Model Refinements for the Present Study

The water quality model shown in Figure 3 was expanded in the area south of Dumbarton Bridge to include the major sloughs. A summary of these modifications follows:

(a) Coyote Creek from the Milpitas outfall to the confluence with Artesian Slough; approximately four miles, Segments 98-102;

(b) Artesian Slough from the San Jose discharge to its confluence with Coyote Creek; approximately 2.5 miles, Segments 103-112;

(c) Mud Slough upstream from the Union Irvington Plant discharge to its confluence with Coyote Creek; approximately 2.5 miles, Segments 113-117;

(d) Alviso Slough from the city of Alviso to its confluence with Coyote Creek; approximately four miles, Segments 118-120;

(e) Guadalupe Slough from a gaging station about 1.5 miles upstream of the Sunnyvale discharge to Coyote Creek; approximately seven miles, Segments 121-125;

(f) Mowry Slough from Mowry Landing to its mouth; approximately seven miles, Segments 126-128;

(g) Newark Slough from Mayhews Landing, 4.5 miles upstream of the Union Newark Plant discharge to its mouth; approximately six miles, Segments 129-134;

(h) Mayfield Slough from the Palo Alto discharge to the main water body; approximately 2.5 miles, Segments 135-139;

(i) Un-named Slough near Mayfield Slough; approximately 1.5 miles upstream from its mouth, Segments 140-141.

These modifications were necessary to analyse the effects of wastewater discharges and their relocation on water quality in the sloughs. The geometry of the tributary sloughs and creeks was obtained from U.S.G.S. maps of the area and data which was provided by Bechtel Corp. The sloughs were segmented in accordance with observed water quality gradients and discharge locations. Figure 4 shows the refined model segmentation and the presents and proposed effluent disposal locations. Tables 2 through 4 present the system geometry and dispersion characteristics of the South Bay Model. Table 2 indicates the dispersion coefficients and cross-sectional areas for each segment interface. The mixing lengths for each interface are measured perpendicular to the interface. Table 3 presents the mean tide volume of each segment. Table 4 presents the mean tide depths.

D. Model Re-Verification

The extended, steady state model of South San Francisco Bay was verified against water quality data collected during three periods. Two of these periods, the summer of 1960-

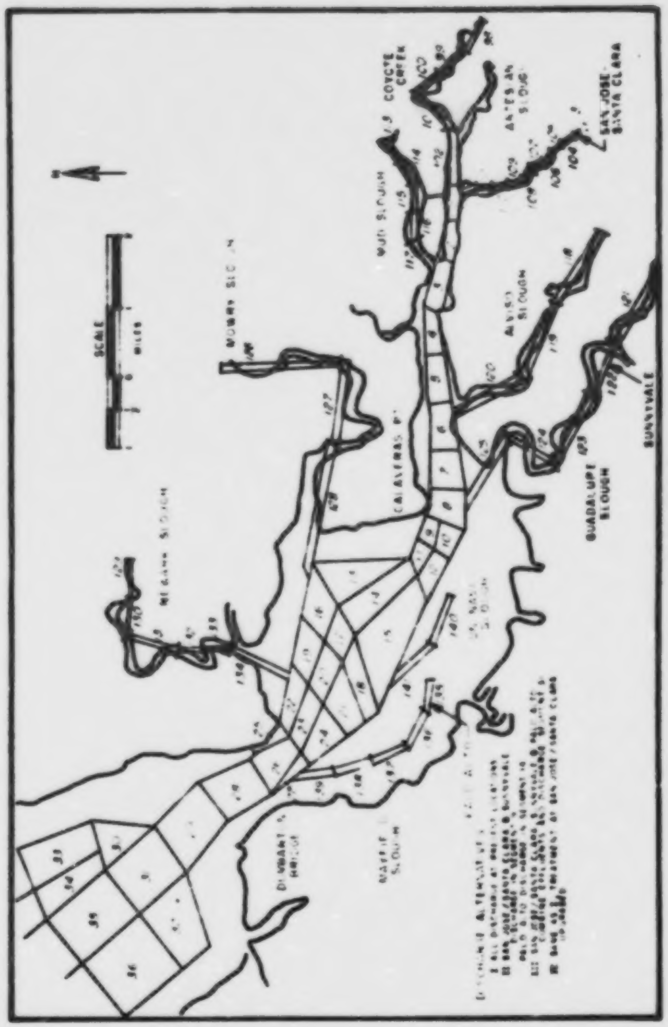

FIGURE 4
RESEGMENTION OF SOUTH SAN FRANCISCO BAY MODEL (DETAIL)

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TABLE 2 - MODEL CHARACTERISTICS

INTERFACE		DISPERSION COEFFICIENT (SQ MI/DAY)	CROSS SECTIONAL AREA (10000 SQ FT)	LENGTH (100 FT)	LENGTH (100 FT)
1.	2.	0.50	0.09500	29.0	32.0
2.	3.	0.50	0.07500	32.0	30.0
3.	4.	0.50	0.14409	30.0	36.0
4.	5.	0.50	0.17495	36.0	35.0
5.	6.	0.50	0.23610	35.0	37.0
6.	7.	0.75	0.22120	37.0	29.0
7.	8.	0.75	0.46450	29.0	21.0
8.	10.	1.00	0.14135	21.0	36.0
9.	10.	0.50	0.70954	35.0	36.0
9.	11.	1.00	0.29003	35.0	38.0
10.	12.	1.00	0.27705	36.0	36.0
11.	12.	0.50	1.04009	38.0	36.0
11.	14.	1.00	0.31299	38.0	50.0
12.	15.	1.00	0.94596	36.0	60.0
13.	14.	0.50	0.97262	40.0	50.0
13.	16.	1.75	0.96557	40.0	28.0
14.	15.	0.50	0.73009	50.0	60.0
14.	17.	1.75	0.55635	50.0	19.0
15.	18.	1.75	0.55954	60.0	13.0
16.	17.	0.50	0.40943	28.0	19.0
16.	19.	1.75	0.47739	28.0	32.0
17.	20.	1.75	0.47544	19.0	31.0
17.	18.	0.50	0.28270	19.0	13.0
18.	21.	1.75	3.04407	13.0	23.0
19.	20.	0.50	0.77244	32.0	31.0
19.	22.	1.75	0.55705	32.0	33.0
20.	21.	0.50	0.59009	31.0	23.0
20.	23.	1.75	0.45290	31.0	33.0
21.	24.	1.75	0.29335	23.0	35.0
22.	23.	0.50	0.34338	33.0	33.0
23.	24.	0.50	0.07145	33.0	35.0
23.	26.	1.75	0.63246	33.0	31.0
24.	27.	1.75	0.10055	35.0	31.0
25.	26.	0.50	1.40000	31.0	31.0
26.	27.	0.50	0.30350	31.0	31.0
26.	28.	1.75	1.14200	31.0	25.0
28.	29.	1.75	1.05000	25.0	50.0
29.	31.	1.75	0.99063	50.0	54.0
30.	31.	1.00	1.21779	54.0	54.0
30.	33.	0.16	0.24636	54.0	50.0
30.	34.	1.30	0.10292	54.0	48.0
31.	32.	0.10	1.04475	54.0	40.0
31.	33.	1.00	1.04175	54.0	48.0
32.	36.	0.56	0.39170	40.0	45.0
33.	37.	0.17	0.25357	50.0	51.0
33.	34.	0.17	0.44630	50.0	48.0
34.	38.	0.17	0.31915	48.0	50.0
34.	35.	0.21	1.26452	48.0	48.0
35.	39.	0.48	1.09527	48.0	51.0
35.	36.	0.10	1.25677	48.0	45.0
36.	40.	0.47	0.60166	45.0	53.0
37.	41.	0.17	0.30117	51.0	41.0
37.	38.	0.10	0.50045	51.0	50.0
38.	39.	0.10	9.99985	50.0	51.0
38.	42.	0.17	0.50670	50.0	50.0
39.	40.	0.10	1.21550	51.0	53.0
39.	43.	0.48	1.03706	51.0	54.0
40.	44.	0.47	0.51404	53.0	52.0
41.	42.	0.10	0.39075	41.0	50.0
41.	45.	0.17	0.54295	50.0	47.0
42.	43.	0.10	1.21520	50.0	54.0
42.	46.	0.17	0.66545	50.0	53.0
43.	44.	0.10	1.25112	54.0	52.0
43.	47.	0.40	1.19612	54.0	56.0
44.	48.	0.47	0.39703	52.0	54.0
45.	46.	0.12	0.46912	47.0	53.0
45.	49.	0.25	0.41550	47.0	42.0
46.	47.	0.09	1.36319	53.0	56.0
49.	53.	0.21	0.57967	42.0	50.0
47.	48.	0.10	1.26795	56.0	54.0
47.	51.	0.45	1.72700	56.0	60.0
48.	52.	0.44	0.55205	54.0	60.0
49.	50.	0.10	0.37560	42.0	50.0
46.	50.	0.23	0.73505	53.0	50.0
50.	51.	0.09	1.34997	50.0	60.0
50.	54.	0.22	0.91610	50.0	63.0
51.	52.	0.09	1.26499	60.0	60.0
51.	55.	0.44	1.98217	60.0	79.0
52.	56.	0.44	0.40777	60.0	83.0
53.	54.	0.36	0.54250	50.0	63.0

TABLE 2 - MODEL CHARACTERISTICS

INTERFACE		DISPERSION COEFFICIENT (SQ MI/DAY)	CROSS SECTIONAL AREA (10000 SQ FT)	LENGTH (100 FT)	LENGTH (100 FT)
53.	57.	0.27	0.72003	58.0	90.0
54.	55.	0.10	1.92499	63.0	79.0
54.	58.	0.27	1.07500	65.0	69.0
55.	56.	0.10	2.40865	79.0	83.0
55.	59.	0.45	2.12055	79.0	66.0
56.	60.	0.44	0.33075	83.0	69.0
57.	58.	0.27	0.61044	90.0	69.0
57.	61.	0.34	1.13010	90.0	88.0
58.	59.	0.02	1.25734	69.0	66.0
58.	62.	0.36	0.94687	69.0	66.0
59.	60.	0.14	1.34030	66.0	69.0
59.	63.	0.39	1.83690	66.0	63.0
60.	64.	0.44	0.42197	69.0	69.0
61.	62.	0.25	0.56311	88.0	66.0
61.	65.	0.26	0.87227	88.0	74.0
62.	63.	0.02	1.37942	66.0	63.0
62.	66.	0.45	1.20051	66.0	87.0
63.	64.	0.14	1.49499	63.0	69.0
63.	67.	0.45	1.77280	63.0	103.0
64.	68.	0.31	0.75391	69.0	112.0
65.	66.	0.37	0.90282	74.0	87.0
65.	69.	0.58	0.59511	74.0	54.0
66.	67.	0.03	2.11901	87.0	103.0
66.	70.	0.36	1.33474	87.0	61.0
67.	68.	0.01	2.68477	103.0	112.0
67.	71.	0.48	2.53638	103.0	69.0
68.	72.	0.18	1.62475	112.0	135.0
69.	73.	0.38	2.70766	54.0	114.0
69.	70.	0.34	0.78694	54.0	61.0
70.	71.	0.04	1.33529	61.0	69.0
70.	74.	0.46	0.73000	61.0	133.0
71.	72.	0.42	1.64491	69.0	135.0
71.	75.	0.45	3.72774	69.0	135.0
72.	75.	0.41	2.90699	135.0	135.0
73.	74.	0.40	2.42868	114.0	133.0
73.	76.	0.40	1.35027	114.0	105.0
74.	75.	0.09	3.59447	133.0	135.0
74.	77.	0.52	3.24074	133.0	150.0
75.	78.	0.33	5.08949	135.0	192.0
76.	77.	1.07	3.03922	105.0	150.0

TABLE 2 - MODEL CHARACTERISTICS

INTERFACE		DISPERSION COEFFICIENT (SQ MI/DAY)	CROSS SECTIONAL AREA (10000 SQ FT)	LENGTH (100 FT)	LENGTH (100 FT)
76.	80.	2.33	1.80157	105.0	120.0
77.	78.	0.41	5.76787	150.0	192.0
77.	81.	3.12	2.08106	150.0	110.0
78.	79.	0.30	5.19399	192.0	51.0
78.	82.	2.31	3.90529	192.0	120.0
80.	81.	1.03	3.66084	120.0	110.0
81.	82.	0.05	6.15144	110.0	120.0
81.	83.	2.59	2.70826	110.0	50.0
82.	84.	4.25	4.95603	120.0	50.0
83.	84.	0.04	2.71100	50.0	50.0
83.	85.	2.58	2.00000	50.0	50.0
84.	86.	5.00	4.00000	50.0	50.0
85.	86.	3.60	2.71100	50.0	50.0
85.	88.	2.29	3.36340	50.0	66.8
86.	89.	5.00	3.19400	50.0	86.9
87.	88.	0.50	1.65000	176.0	66.8
87.	90.	0.25	1.17000	176.0	167.0
88.	91.	5.00	0.91200	66.8	80.4
89.	92.	5.00	6.02000	86.9	113.0
90.	91.	0.15	0.87100	167.0	80.4
90.	95.	0.13	1.24000	167.0	147.0
91.	92.	5.00	1.99000	80.4	113.0
91.	95.	5.00	1.11000	80.4	147.0
92.	93.	5.00		113.0	160.0
92.	95.	5.00	4.35000	113.0	147.0
93.	94.	5.00		160.0	46.7
93.	96.	5.00	3.78000	160.0	113.0
93.	97.	0.13	4.95000	160.0	174.0
94.	0.	5.00		46.7	46.7
95.	96.	5.00	2.74000	147.0	113.0
95.	0.	5.00	4.02000	147.0	147.0
96.	0.	5.00	3.40000	113.0	113.0
8.	9.	0.50	0.14135	21.0	33.0
22.	25.	1.00	0.10055	35.0	31.0
48.	49.	0.20	0.06050	42.0	42.0
49.	100.	0.30	0.30124	42.0	42.0
100.	101.	0.30	0.00457	42.0	42.0
101.	102.	0.40	0.03494	42.0	42.0
102.	1.	0.50	0.01400	42.0	39.0
103.	104.	0.20	0.03075	14.5	14.5

TABLE 2 - MODEL CHARACTERISTICS

INTERFACE		DISPERSION COEFFICIENT (SQ MI/DAY)	CROSS SECTIONAL AREA (10000 SQ FT)	LENGTH (100 FT)	LENGTH (100 FT)
104.	105.	0.20	0.00069	14.5	14.5
105.	106.	0.30	0.00248	14.5	14.5
106.	107.	0.30	0.00700	14.5	14.5
107.	108.	0.40	0.01000	14.5	14.5
108.	109.	0.40	0.01125	14.5	14.5
109.	110.	0.40	0.01250	14.5	14.5
110.	111.	0.40	0.01375	14.5	14.5
111.	112.	0.40	0.02113	14.5	14.5
112.	1.	0.50	0.02800	14.5	15.0
113.	114.	0.40	0.00275	25.0	25.0
114.	115.	0.40	0.00825	25.0	25.0
115.	116.	0.50	0.01950	25.0	25.0
116.	117.	0.50	0.02975	25.0	25.0
117.	3.	0.50	0.03150	25.0	30.0
118.	119.	0.25	0.02000	70.0	70.0
119.	120.	0.35	0.04059	70.0	70.0
120.	6.	0.50	0.05500	70.0	28.0
121.	122.	0.20	0.01200	76.0	60.0
122.	123.	0.30	0.01875	60.0	68.0
123.	124.	0.30	0.02750	68.0	68.0
124.	125.	0.40	0.04063	68.0	68.0
125.	8.	0.50	0.04400	68.0	29.0
126.	127.	0.40	0.00550	120.0	120.0
127.	128.	0.70	0.02339	120.0	120.0
128.	16.	1.00	0.04000	120.0	36.0
129.	130.	0.20	0.00149	60.0	60.0
130.	131.	0.40	0.00380	60.0	60.0
131.	132.	0.40	0.00640	60.0	60.0
132.	133.	0.60	0.01069	60.0	35.0
133.	134.	0.80	0.02113	35.0	30.0
134.	22.	1.00	0.03000	30.0	33.0
135.	136.	0.70	0.06500	25.0	25.0
136.	137.	0.70	0.07763	25.0	25.0
137.	138.	0.80	0.10075	25.0	25.0
138.	139.	0.90	0.13500	25.0	25.0
139.	27.	1.00	0.15750	25.0	10.0
140.	141.	0.50	0.04250	40.0	40.0
141.	15.	1.00	0.06500	40.0	40.0

TABLE 3 - SEGMENT VOLUMES (MILLION CUBIC FEET)

SEGMENT	VOLUME
1.	21.50
2.	24.30
3.	25.93
4.	42.69
5.	73.73
6.	91.06
7.	64.94
8.	133.41
9.	111.26
10.	77.17
11.	91.33
12.	200.52
13.	177.83
14.	170.52
15.	197.96
16.	30.97
17.	20.67
18.	36.08
19.	70.35
20.	114.95
21.	41.08
22.	144.35
23.	119.36
24.	83.55
25.	46.53
26.	172.94
27.	15.97
28.	247.35
29.	363.93
30.	139.54
31.	348.49
32.	32.09
33.	90.92
34.	94.24
35.	417.23
36.	168.50
37.	129.16
38.	116.41
39.	355.52

TABLE 3 - SEGMENT VOLUMES (MILLION CUBIC FEET)

SEGMENT	VOLUME
40.	312.51
41.	43.10
42.	203.91
43.	458.29
44.	311.44
45.	199.73
46.	291.26
47.	537.26
48.	150.46
49.	164.20
50.	249.67
51.	587.19
52.	196.87
53.	553.19
54.	430.24
55.	1137.39
56.	267.97
57.	509.77
58.	339.79
59.	746.97
60.	133.56
61.	949.63
62.	241.27
63.	888.35
64.	174.51
65.	590.00
66.	902.09
67.	1798.95
68.	539.28
69.	1096.55
70.	515.59
71.	1799.07
72.	2224.96
73.	2305.03
74.	1953.06
75.	4176.22
76.	1486.87
77.	4459.56
78.	6076.45

TABLE 3 - SEGMENT VOLUMES (MILLION CUBIC FEET)

SEGMENT	VOLUME
79.	1911.94
80.	3020.48
81.	3021.69
82.	5244.29
83.	1360.00
84.	2490.00
85.	1560.00
86.	2890.00
87.	1040.00
88.	2130.00
89.	5550.00
90.	2740.00
91.	1930.00
92.	5930.00
93.	18890.00
94.	6700.00
95.	8500.00
96.	4010.00
97.	370.00
98.	0.17
99.	0.25
100.	0.84
101.	1.59
102.	6.30
103.	0.00
104.	0.13
105.	0.37
106.	0.50
107.	1.45
108.	1.45
109.	1.31
110.	1.91
111.	2.19
112.	4.06
113.	0.31
114.	1.13
115.	5.09
116.	7.00
117.	7.99

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TABLE 3- SEGMENT VOLUMES (MILLION CUBIC FEET)

SEGMENT	VOLUME
118.	8.40
119.	19.60
120.	38.50
121.	5.70
122.	10.50
123.	13.60
124.	23.50
125.	29.30
126.	2.40
127.	12.60
128.	45.00
129.	0.27
130.	1.60
131.	2.98
132.	4.20
133.	4.51
134.	9.00
135.	14.63
136.	17.90
137.	21.00
138.	29.50
139.	39.59
140.	9.90
141.	26.00

TABLE 4 - MEAN TIDE DEPTHS

SEGMENT	MEAN DEPTH (FT.)
1.	7.70
2.	10.70
3.	8.20
4.	8.78
5.	11.55
6.	12.20
7.	11.40
8.	13.70
9.	19.20
10.	15.86
11.	29.36
12.	27.70
13.	13.92
14.	16.90
15.	12.70
16.	25.70
17.	19.70
18.	6.20
19.	15.70
20.	30.15
21.	5.86
22.	59.70
23.	34.70
24.	14.81
25.	52.20
26.	39.36
27.	11.70
28.	44.96
29.	57.90
30.	10.46
31.	32.30
32.	5.44
33.	6.30
34.	12.97
35.	57.50
36.	13.45
37.	6.55
38.	11.51
39.	27.52
40.	20.70

TABLE 4 - MEAN TIDE DEPTHS

SEGMENT	MEAN DEPTH (FT.)
41.	5.30
42.	14.30
43.	31.17
44.	13.00
45.	3.30
46.	12.16
47.	33.06
48.	8.09
49.	5.60
50.	10.46
51.	35.76
52.	12.50
53.	7.29
54.	10.50
55.	41.29
56.	16.10
57.	5.93
58.	8.35
59.	30.02
60.	11.07
61.	6.00
62.	8.19
63.	36.26
64.	8.65
65.	8.57
66.	12.42
67.	33.50
68.	11.54
69.	11.21
70.	16.00
71.	27.01
72.	15.40
73.	11.36
74.	22.59
75.	25.07
76.	11.31
77.	29.11
78.	36.76
79.	7.78
80.	16.12

TABLE 4 - MEAN TIDE DEPTHS

SEGMENT	MEAN DEPTH (FT.)
81.	30.33
82.	51.62
83.	32.39
84.	57.79
85.	32.39
86.	57.79
87.	10.00
88.	30.00
89.	75.00
90.	10.00
91.	20.00
92.	50.00
93.	70.00
94.	200.30
95.	40.00
96.	120.00
97.	10.00
98.	4.00
99.	4.00
100.	5.00
101.	6.00
102.	7.00
103.	7.00
104.	6.30
105.	5.00
106.	4.00
107.	4.00
108.	4.00
109.	5.00
110.	5.30
111.	6.00
112.	7.00
113.	5.30
114.	6.00
115.	6.30
116.	7.00
117.	7.00
118.	8.30
119.	9.00
120.	11.00

TABLE 4 - MEAN TIDE DEPTHS

SEGMENT	MEAN DEPTH (FT.)
121.	5.00
122.	7.00
123.	8.00
124.	14.00
125.	11.00
126.	4.00
127.	7.00
128.	10.00
129.	3.00
130.	4.00
131.	4.00
132.	8.00
133.	5.00
134.	9.00
135.	9.00
136.	11.00
137.	12.00
138.	19.00
139.	21.00
140.	7.00
141.	10.00

1964 and March 1968, were included in the previous verification analysis(2). They contain data limited to the main transect of South San Francisco Bay, from Coyote Creek to the Golden Gate Bridge. A third period, June 1967, presents a wide range of data in the area south of the Dumbarton Bridge, both along the main transect and in many of the sloughs.

1. Verification Analysis - Conservative Substances

The tranport phenomena of the system were verified with three sets of conservative substance data, one from each of the periods analyzed.

a) Chloride, March 1968

Data were collected for the Kaiser Bay-Delta Study. The advective flow pattern was generated by combining the basic circulation pattern with wastewater flows and urban runoff flows which were routed through the system. The wastewater flows are listed in Table 5.

The urban runoff flows were estimated from U.S.G.S. data at gaging stations along Coyote Creek and the Guadalupe River. The withdrawal and release of water for water supply and groundwater percolation makes the selection of flows difficult, but a best estimate was made based on the available flow records. The urban runoff flows used for this verification are shown in Table 6.

Evaporation and precipitation on the Bay surface during March 1968 were essentially equal. The Sacramento-San Joaquin Delta outflow was about 36,000 cfs.

Boundary concentrations of chlorides were established at the Golden Gate and Point Richmond boundaries. Figure 5 shows a comparison of the observed chloride data along the main transect and the calculated chloride distribution. The agreement between the observations and the expanded model's response is noted to be good.

TABLE 5

MAJOR WASTEWATER DISCHARGERS

Discharger	Flows (cfs) March 1968**	Model Segment for Discharge
San Jose	110	103
Milpitas	5	98
Union #2, Irvington	5	113
Sunnyvale	18	122
Mt. View	9	140
Palo Alto	22	135
Los Altos	2	135
Union #1, Newark	8	133
Menlo Park	7	32
Redwood City	12	48
San Carlos	8	48
South San Francisco	15	72
Millebrag	1	72
San Francisco Airport	3	72
Hayward	17	61
Oro Loma	24	61
San Leandro	10	73
S.E. San Francisco	33	82
EBMUD	144	88

** Plant records

TABLE 6

URBAN RUNOFF FLOW

March 1968

Segment	Location	Flow (cfs)
98	Coyote Creek	9
103	Artesian Slough	9
113	Mud Slough	4.5
118	Alviso Slough	9
121	Guadalupe Slough	9
126	Mowry Slough	4.5
129	Newark Slough	4.5
135	Mayfield Slough	9
140	Unnamed Slough (near Mayfield Slough)	9

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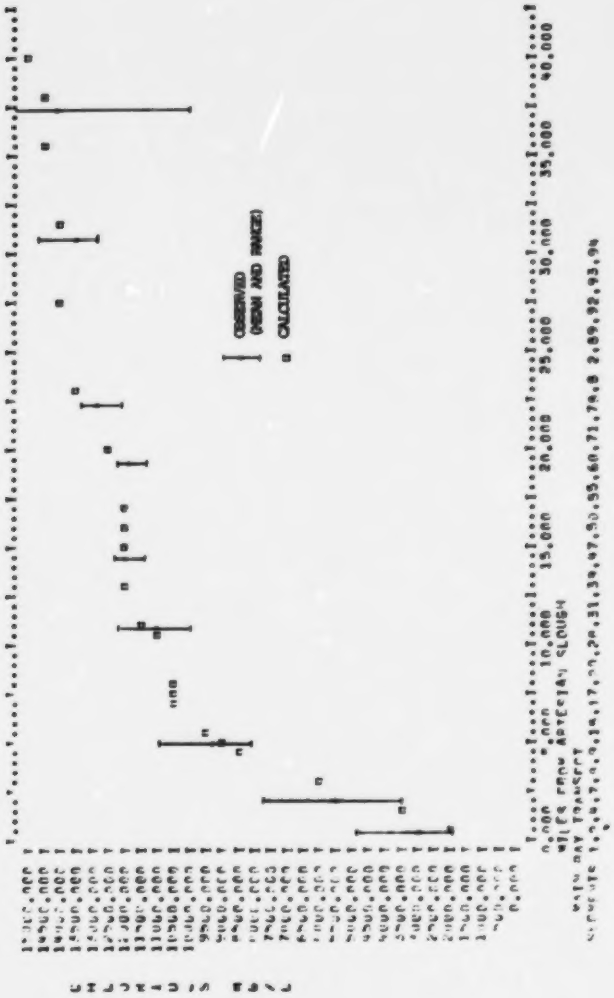

Figure 5
VERIFICATION ANALYSIS
March 1968

b) Chloride, June 1967

The data utilized for the June 1967 verification were collected during special studies for the San Jose-Santa Clara Water Pollution Control Plant.

Wastewater flows were determined from plant records and are listed in Table 7. Urban runoff flow and precipitation on the Bay surface was assumed to be zero. An average net evaporation of seven inches during the month of June was superimposed on the basic flow pattern. The Sacramento-San Joaquin Delta outflow during this period was 52,800 cfs.

Boundary concentrations of chlorides were estimated at the Golden Gate and Point Richmond boundaries. Data in the sloughs indicated that the wastewater was somewhat saline, and the treatment plant effluent was assumed to have a chloride concentration of 100 mg/l. The boundary conditions, however, are the main source of chlorides to the system.

Figures A.1-A.10 in Appendix A show a comparison of the calculated chloride distribution for the main tansect and the nine sloughs, with the observed chloride data. Data in the main transect and in Artesian Slough have been translated to mean tide position in accordance with the San Jose-Santa Clara Water Pollution Control Plant Study[2]. Data in the other eight sloughs are shown at the point of sampling. The indicated translations are developed from tidal state and channel geometry.

The calculated chloride profile is in good agreement with the observed data. Transport phenomena in South San Francisco Bay appears to well verified for the June 1967 analysis. Note that the chloride data for Alviso Slough indicate that some additional flows may have been present.

c) Silica, Summer 1960-1964

The data used were collected during the University of California Bay Study of 1960-1964. The flow pattern included the basic circulation, wastewater flows, an average net summer evaporation of eight inches per month, and a Sacramento-San Joaquin Delta outflow of 5,000 cfs.

TABLE 7

MAJOR WASTEWATER DISCHARGERS

Discharger	Flows (cfs) 1967** June	Model Segment for Discharge
San Jose	97	103
Milpitas	3	98
Union #2, Irvington	8	113
Sunnyvale	9	122
Mt. View	8	140
Palo Alto	19	135
Los Altos	3	135
Union #1, Newark	5	133
Menlo Park	8	32
Redwood City	9	48
San Carlos	7	48
South San Francisco	-	72
Millebrag	2	72
San Francisco Airport	1	72
Hayward	15	61
Oro Loma	18	61
San Leandro	10	73
S.E. San Francisco	-	82
EBMUD	120	88

** Plant records

Wastewater flows and silica loads input into the steady state model were obtained from the University of California data and are shown in Tables 8 and 9, respectively. Figure 6 provides a comparison of the observed data and the calculated distribution on the main transect of South San Francisco Bay.

2. Verification Analysis - Reactive Substance

BOD_5, ammonia nitrogen and dissolved oxygen concentrations were verified with four sets of data from two periods of analysis.

a) BOD_5, Ammonia, and Dissolved Oxygen Deficit, June 1967

Data collected in the June 1967 special studies for the San Jose-Santa Clara Water Pollution Control Plant included five-day biochemical oxygen demand (BOD_5), ammonia (NH_3-N), and dissolved oxygen concentrations.

BOD_5 and ammonia nitrogen loads were taken from plant records and are shown in Table 10. The carbonaceous BOD reaction rate (Kr) and deoxygenation rate (Kd) were assumed to be 0.20 per day at 20°C, and were adjusted for temperature throughout the system. In the areas adjacent to the San Jose-Santa Clara, Union Irvington, Sunnyvale, and Union Newark outfalls, the Kr was increased to account for some settling of particulate organics.

(1) Effects of Marsh Loads

Preliminary analyses indicated that a source of BOD_5 was not being accounted for by the steady state model inputs, particularly in a number of the sloughs. The discrepency is demonstrated by comparing the originally calculated BOD_5 profiles in Alviso Slough and Mowry Slough with the observed data. This comparison is shown in Figures 7 and 8. In both cases the observed BOD_5 concentrations, ranging from 2 to 5 mg/l, are not adequately represented by the model. Furthermore, observed levels of ammonia and dissolved oxygen deficit in these and other areas were not adequately accounted for in the modeling analysis.

TABLE 8

MAJOR WASTEWATER DISCHARGERS

Discharger	Flows (cfs) 1960-1964* Summer	Model Segment for Discharge
San Jose	70	103
Milpitas	2	98
Union #2, Irvington	-	113
Sunnyvale	13	122
Mt. View	4	140
Palo Alto	15	135
Los Altos	1	135
Union #1, Newark	4	133
Menlo Park	7	32
Redwood City	10	48
San Carlos	6	48
South San Francisco	9	72
Millebrag	5	72
San Francisco Airport	2	72
Hayward	12	61
Oro Loma	17	61
San Leandro	10	73
S.E. San Francisco	30	82
EBMUD	105	88

* UCBS data source

TABLE 9

SILICA LOADS 1960-1964

Discharger	Silica Load lbs/day	Discharge Segment	Discharger	Silica Load lbs/day	Discharge Segment
San Jose	11,900	103	Merck	171	72
Sunnyvale	2,000	122	South San Francisco	1,790	72
Mt. View	800	140	Airport	289	72
Palo Alto	2,400	135	Millbrae	283	72
Food Mach.	480	19	San Leandro	1,410	73
Union #1	460	133	S.E. San Francisco	2,440	82
Menlo Park	580	32	EBMUD	9,840	88
San Carlos	480	48	North Point	5,960	89
Ideal Cement	1,650	48	San Francisco Sewers	553	89
Redwood City	1,050	48	Stege S.D.	452	90
Hayward	1,400	61	Stauffer	252	90
Oro Loma	1,940	61	Richmond	1,010	90
San Mateo	1,490	64	Sausilito	140	91
Burlingame	363	68	Mill Valley	131	97

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TABLE 10

CARBONACEOUS AND NITROGENOUS BOD DISCHARGES

June 1967

Discharger	Biochemical Oxygen Demand Carbonaceous lbs/day	Biochemical Oxygen Demand Nitrogeneous lbs/day	Ultimate Oxygen Demand Carbonaceous lbs/day	Ultimate Oxygen Demand Nitrogenous lbs/day	Discharge Segment
San Jose	14,100	11,900	21,150	54,385	103
Union #2, Irvington	5,540	1,320	8,310	6,030	113
Sunnyvale	5,106	2,500	7,650	11,425	122
Mt. View	7,015	1,500	10,520	6,855	140
Palo Alto	11,830	2,000	17,745	9,140	135
Los Altos	2,190	500	3,285	2,285	133
Milpitas	210	400	315	1,830	98
Menlo Park	3,420	600	5,130	2,740	32

Discharger	TOTAL U.O.D.	Discharge Segment
Sun Carlos and Redwood City	12,520	48
Hayward and Oro Loma	18,600	61
So. San Francisco, S.F. Int. Airport, and Millbrae	15,325	72
San Leundro	13,080	73
S.E. San Francisco	23,180	82
EBMUD	251,560	88

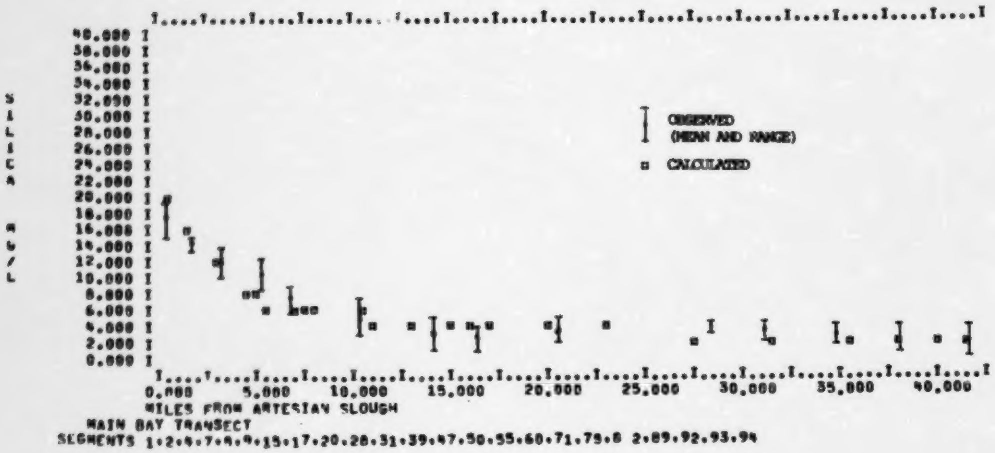

Figure 6
VERIFICATION ANALYSIS
Summer 1960 - 1964

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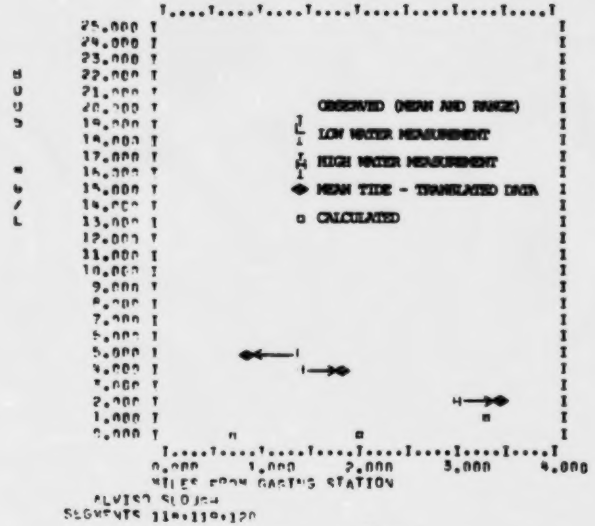

Figure 7
VERIFICATION ANALYSIS
June 1967, Without Swamp Loadings

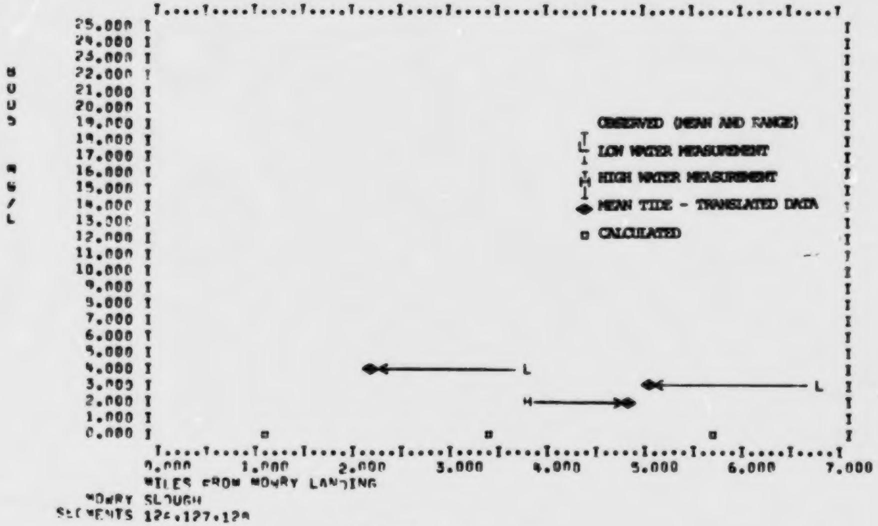

Figure 8
VERIFICATION ANALYSIS
June 1967, Without Swamp Loadings

The places where higher than anticipated levels of BOD_5, ammonia, and DO deficit concentrations were observed are adjacent to marsh areas. Other studies have indicated that marshes may contribute a major source of BOD to adjacent waterways. However, no quantitative descriptions of the effect have been published for the San Francisco Bay Area. The present evidence indicates that the swamps contribute to water quality problems in South San Francisco Bay. Marsh areas indicated on U.S.G.S. maps were, therefore, assumed to provide a BOD_5 and ammonia load to the adjacent waters, on an areal basis. These marsh areas and loads are shown in Table 11. Further study of this subject is needed to better quantify the magnitude of these loads.

The final BOD_5 verification was performed using the wastewater effluent loads, marsh loads, and Golden Gate and Port Richmond boundary conditions. The calculated profile and observed data are shown in Figures A.11 and A.20 in Appendix A. Note that the calculated profile agrees well with the observed data in most regions of the system. Areas of marginal agreement are portions of the main transect where the BOD_5 is somewhat underestimated, and upper Artesian and Mud Sloughs, where it is somewhat overestimated.

b. Ammonia Nitrogen

The nitrogenous reaction rate (Kn) and the associated nitrogenous deoxygenation rate was assumed to be 0.20 per day at 20°C and was adjusted for temperature. In those areas where the dissolved oxygen deficit approaches the saturation level of dissolved oxygen, the reaction rate was reduced appropriately. The values of Kn are shown in Table 12. The results of the verification are shown in Figures A.21-A.30 in Appendix A. Note a generally good fit between the calculated ammonia profile and the observed date. Ammonia levels are somewhat underestimated in the main transect and overestimated in Upper Coyote Creek and Guadalupe Slough.

c. Dissolved Oxygen Deficit

The reaeration rates, Ka, for the main transect of the Bay system were taken from the previous study(2). The reaeration

TABLE 11

MARSH AREA LOADINGS

Location	Segment	Area mi^2	Marsh Loading BOD5 lbs/day	Marsh Loading Ammonia lbs/day
Main Transect	2	0.12	180	180
	3	0.30	450	450
	4	0.06	90	90
	5	0.12	180	180
	6	0.12	180	180
	7	0.20	300	300
	8	0.10	150	150
	9	0.06	90	90
	10	0.20	300	300
	11	0.06	90	90
	12	0.20	300	300
	13	0.06	90	90
	16	0.12	180	180
	22	0.20	300	300
	28	0.10	150	150
	29	0.10	150	150
	32	0.35	525	525
	33	0.25	375	375
	36	0.60	900	900
	40	0.60	900	900
	41	2.50	3750	3750
	44	1.00	1500	1500
	48	0.25	375	375
	54	0.25	375	375
U. Coyote Creek	101	0.25	375	375
	102	0.50	750	750
Artesian Slough	103	0.05	75	75
	104	0.05	75	75
	105	0.02	30	30
	106	0.02	30	30
Mud Slough	113	0.06	90	90
	117	0.12	180	180
Guadalupe Slough	121	0.03	45	45
	122	0.12	180	180
Mowry Slough	126	0.25	375	375
	128	0.80	1200	1200
Newark Slough	129	0.06	90	90
	130	0.12	180	180
	131	0.08	120	120
	132	0.25	375	375
	133	0.22	330	330
	134	0.30	450	450
Mayfield Slough	135	0.13	195	195
	136	0.13	195	195
	137	0.13	195	195
Unnamed Slough	140	0.30	450	450
Alviso Slough	118	1.25	1875	1875
	119	0.20	300	300
	120	0.60	90	90

TABLE 12. JUNE 1967 REACTION RATES (1/DAY)
(TEMPERATURE ADJUSTED)

SEGMENT	TEMPERATURE (CENTIGRADE)	KR	KN	KA
1	19.00	0.19	0.17	1.27
2	18.00	0.18	0.18	0.89
3	17.50	0.19	0.18	1.15
4	17.00	0.19	0.19	1.06
5	17.50	0.19	0.18	0.91
6	17.50	0.19	0.13	0.77
7	17.00	0.19	0.19	0.81
8	17.00	0.18	0.19	0.67
9	17.00	0.18	0.18	0.49
10	17.00	0.19	0.19	0.67
11	17.00	0.19	0.19	0.31
12	17.00	0.18	0.19	0.35
13	17.00	0.19	0.19	0.67
14	17.00	0.19	0.18	0.95
15	17.00	0.19	0.19	0.73
16	17.00	0.19	0.19	0.36
17	17.00	0.19	0.19	0.47
18	17.00	0.18	0.19	1.49
19	17.00	0.19	0.19	0.59
20	17.00	0.19	0.18	0.31
21	17.00	0.18	0.18	1.57
22	17.00	0.15	0.19	0.23
23	17.00	0.19	0.19	0.05
24	17.00	0.18	0.19	0.62
25	16.50	0.17	0.17	0.17
26	16.50	0.17	0.17	0.07
27	16.50	0.17	0.17	0.78
28	16.50	0.17	0.17	0.06
29	16.00	0.17	0.17	0.07
30	16.00	0.17	0.17	0.18
31	16.00	0.17	0.17	0.09
32	16.00	0.17	0.17	0.79
33	16.00	0.17	0.17	0.43
34	16.00	0.17	0.17	0.15
35	16.00	0.17	0.17	0.07
36	16.00	0.17	0.17	0.21
37	16.00	0.17	0.17	0.41
38	16.00	0.17	0.17	0.17
39	16.00	0.17	0.17	0.12
40	16.00	0.17	0.17	0.12
41	16.00	0.17	0.17	0.56
42	16.00	0.17	0.17	0.15
43	16.00	0.17	0.17	0.10
44	16.00	0.17	0.17	0.25
45	16.00	0.17	0.17	0.59
46	16.00	0.17	0.17	0.19
47	16.00	0.17	0.17	0.09
48	16.00	0.17	0.17	0.42
49	16.00	0.17	0.17	0.60
50	16.00	0.17	0.17	0.23
51	16.00	0.17	0.17	0.09
52	16.00	0.17	0.17	0.25
53	16.00	0.17	0.17	0.43
54	16.00	0.17	0.17	0.25
55	16.00	0.17	0.17	0.06
56	16.00	0.17	0.17	0.17
57	15.00	0.16	0.16	0.57
58	15.00	0.16	0.16	0.36
59	15.00	0.16	0.16	0.10
60	15.00	0.15	0.15	0.29
61	15.00	0.16	0.16	0.51
62	15.00	0.16	0.16	0.37
63	15.00	0.16	0.16	0.08
64	15.00	0.16	0.16	0.30
65	15.00	0.16	0.16	0.37
66	15.00	0.15	0.16	0.23
67	15.00	0.16	0.16	0.09
68	15.00	0.16	0.15	0.17
69	15.00	0.16	0.16	0.27
70	15.00	0.16	0.15	0.15
71	15.00	0.15	0.16	0.12
72	15.00	0.16	0.16	0.13
73	15.00	0.16	0.16	0.25
74	15.00	0.15	0.16	0.15

TABLE 12. JUNE 1967 REACTION RATES (1/DAY)
(TEMPERATURE ADJUSTED)

SEGMENT	TEMPERATURE (CENTIGRADE)	KR	KN	KA
75	15.00	0.15	0.16	0.14
76	15.00	0.16	0.16	0.27
77	15.00	0.16	0.16	0.10
78	15.00	0.16	0.16	0.05
79	15.00	0.16	0.16	0.46
80	15.00	0.15	0.15	0.13
81	15.00	0.15	0.15	0.09
82	15.00	0.16	0.15	0.04
83	15.00	0.16	0.15	0.09
84	15.00	0.15	0.15	0.04
85	15.00	0.15	0.15	0.05
86	15.00	0.16	0.16	0.04
87	15.00	0.16	0.16	0.20
88	15.00	0.15	0.16	0.10
89	15.00	0.16	0.16	0.03
90	14.00	0.15	0.15	0.19
91	14.00	0.15	0.15	0.15
92	14.00	0.16	0.16	0.04
93	14.00	0.15	0.15	0.03
94	14.00	0.16	0.16	0.01
95	14.00	0.16	0.16	0.05
96	14.00	0.16	0.15	0.01
97	14.00	0.15	0.16	0.22
98	18.00	0.19	0.10	1.71
99	18.00	0.18	0.09	1.67
100	18.00	0.18	0.09	1.33
101	18.00	0.19	0.09	1.11
102	18.00	0.18	0.06	0.95
103	23.00	1.12	0.22	1.08
104	23.00	1.12	0.22	1.26
105	22.00	0.54	0.22	1.47
106	22.00	0.43	0.22	1.84
107	21.00	0.31	0.21	1.79
108	21.00	0.21	0.10	1.79
109	20.00	0.20	0.05	1.40
110	20.00	0.20	0.05	1.40
111	19.00	0.19	0.05	1.14

TABLE 12. JUNE 1967 REACTION RATES (1/DAY)
(TEMPERATURE ADJUSTED)

SEGMENT	TEMPERATURE (CENTIGRADE)	KR	KN	KA
112	19.00	0.17	0.05	0.99
113	17.50	0.91	0.02	1.32
114	17.50	0.45	0.09	1.10
115	17.50	0.27	0.18	1.10
116	17.50	0.18	0.18	0.94
117	17.50	0.18	0.18	0.94
118	17.50	0.18	0.09	0.83
119	17.50	0.18	0.18	0.83
120	17.50	0.18	0.18	0.60
121	17.50	0.27	0.18	1.32
122	17.50	0.91	0.06	0.94
123	17.50	0.27	0.18	0.93
124	17.50	0.18	0.18	0.47
125	17.50	0.18	0.18	0.60
126	17.00	0.18	0.18	1.65
127	17.00	0.18	0.18	0.95
128	17.00	0.18	0.18	0.65
129	17.00	0.18	0.09	2.16
130	17.00	0.18	0.09	1.63
131	17.00	0.18	0.09	1.63
132	17.00	0.18	0.18	1.65
133	17.00	0.35	0.18	1.30
134	17.00	0.36	0.18	0.52
135	17.00	0.18	0.18	0.72
136	17.00	0.18	0.18	0.59
137	17.00	0.18	0.18	0.54
138	17.00	0.18	0.18	0.34
139	16.50	0.17	0.17	0.39
140	17.00	0.18	0.18	0.93
141	17.00	0.18	0.18	0.65

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coefficients in the sloughs were calculated as a function of depth using the relationship:

$$Ka_{20°C} = \frac{K_L}{Depth}$$

Where K_L was assumed equal to be seven.

The reaeration rates were then adjusted to the ambient water temperature using the method described in the original model development study (2).

The total DO deficit was calculated by summing the deficit resulting from carbonaceous BOD_5 loads and oxidizable ammonia loads from treatment plant effluents to South San Francisco Bay, initial deficits in the treatment plant effluent, other discharges in the system, bottom demand, boundary conditions, and assumed loadings from marsh areas. The initial deficit in the wasteater effluent was assigned at 4 mg/l. The bottom demand in the main transect of the system was taken from the previous study (2). The bottom demand in the sloughs was developed during the verification analysis to be one gram/square meter/day, except in those areas adjacent to outfalls where settling was assumed to increase benthic deposits. The bottom demands for the system are listed in Table 13.

The components of the total dissolved oxygen deficit are shown in Table 14. A comparison of the calculated dissolved oxygen deficit profile and the observed data for the June, 1967 verification are shown in Figures A.31-A.40 in Appendix A. The observed dissolved oxygen deficit is developed by subtracting the measured dissolved oxygen concentration from the oxygen saturation concentration calculated from temperature and chloride concentration. In general, the verification is very good. The deficit is slightly underestimated on portions of the main transect and Mowry Slough, and a slightly overestimated in portions of Alviso Slough.

2. Dissolved Oxygen Deficit, Summer 1960-1964

Dissolved Oxygen measurements collected during the University of California Bay Study of 1960-1964 were used in this verification.

TABLE 13- BENTHAL DEMAND

SEGMENT	BENTHAL DEMAND (GRAMS O2/SQ M/DAY)
1.	1.00
2.	1.00
3.	1.00
4.	1.00
5.	1.00
6.	1.00
7.	1.00
8.	1.00
9.	1.00
10.	1.00
11.	1.00
12.	1.00
13.	1.00
14.	1.00
15.	1.00
16.	1.00
17.	1.00
18.	0.50
19.	1.00
20.	0.50
21.	0.50
22.	0.50
23.	0.50
24.	0.50
25.	0.50
26.	0.50
27.	0.50
28.	0.50
29.	0.50
30.	0.50
31.	0.50
32.	0.50
33.	0.50
34.	0.50
35.	0.50
36.	0.50
37.	0.50
38.	0.50
39.	0.50

TABLE 13 - BENTHAL DEMAND

SEGMENT	BENTHAL DEMAND (GRAMS O2/SQ M/DAY)
40.	0.50
41.	0.50
42.	0.50
43.	0.50
44.	0.50
45.	0.50
46.	0.50
47.	0.50
48.	0.50
49.	0.50
50.	0.50
51.	0.50
52.	0.50
53.	0.50
54.	0.50
55.	0.50
56.	0.50
57.	0.50
58.	0.50
59.	0.50
60.	0.50
61.	0.50
62.	0.50
63.	0.50
64.	0.50
65.	0.50
66.	0.50
67.	0.50
68.	0.50
69.	0.50
70.	0.50
71.	0.50
72.	0.50
73.	0.50
74.	0.50
75.	0.50
76.	0.50
77.	0.50
78.	0.50
79.	0.50
80.	0.50
81.	0.50
82.	0.50
83.	0.50
84.	0.00
85.	0.00
86.	0.00
87.	0.00
88.	0.00
89.	0.00
90.	0.00
91.	0.00
92.	0.00
93.	0.00
94.	0.00
95.	0.00
96.	0.00
97.	0.00
98.	0.50
99.	0.00
100.	0.50
101.	0.50
102.	1.00
103.	3.00
104.	3.00
105.	2.00
106.	2.00
107.	2.00
108.	1.00
109.	1.00
110.	1.00
111.	1.00
112.	1.00
113.	3.00
114.	2.00
115.	1.00
116.	1.00
117.	1.00

```
                 TABLE 13- BENTHAL DEMAND

                                    BENTHAL DEMAND
SEGMENT                          (GRAMS O2/SQ M/DAY)

  118.                                   0.00
  119.                                   0.50
  120.                                   1.00
  121.                                   2.00
  122.                                   4.00
  123.                                   2.00
  124.                                   1.00
  125.                                   1.00
  126.                                   0.00
  127.                                   0.50
  128.                                   1.00
  129.                                   0.00
  130.                                   0.00
  131.                                   0.00
  132.                                   0.50
  133.                                   2.00
  134.                                   2.00
  135.                                   0.50
  136.                                   1.00
  137.                                   1.00
  138.                                   1.00
  139.                                   1.00
  140.                                   1.00
  141.                                   1.00
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                                         TABLE 14
                          DO  DEFICIT  COMPONENTS  CALCULATED  (MG/L)
                               JUNE 1967 VERIFICATION
SEGMENT   CARBONACEOUS NITROGENOUS INIT DEF.BOT.D BOD5 SWAMP NH3-N SWAMP   TOTAL
             STP LOADS   STP LOADS OTH STPS.BOUN.    LOADS       LOADS     DEFICIT

      1           2.10        4.65          0.45       0.22        0.61       8.06
      2           1.64        4.17          0.39       0.21        0.68       7.11
      3           1.16        2.85          0.38       0.17        0.58       5.16
      4           0.82        2.05          0.36       0.15        0.51       3.92
      5           0.59        1.44          0.36       0.14        0.48       3.02
      6           0.42        0.95          0.36       0.13        0.45       2.34
      7           0.35        0.67          0.36       0.11        0.37       1.88
      8           0.34        0.59          0.37       0.10        0.35       1.76
      9           0.35        0.44          0.37       0.10        0.33       1.61
     10           0.35        0.44          0.37       0.09        0.33       1.60
     11           0.37        0.39          0.38       0.10        0.33       1.59
     12           0.37        0.39          0.38       0.10        0.32       1.58
     13           0.38        0.31          0.39       0.10        0.32       1.52
     14           0.38        0.33          0.39       0.09        0.32       1.53
     15           0.37        0.33          0.38       0.09        0.30       1.49
     16           0.40        0.32          0.40       0.10        0.35       1.58
     17           0.40        0.33          0.40       0.10        0.33       1.57
     18           0.38        0.31          0.38       0.09        0.30       1.48
     19           0.42        0.33          0.41       0.11        0.36       1.64
     20           0.42        0.33          0.41       0.10        0.34       1.62
     21           0.38        0.31          0.38       0.09        0.30       1.49
     22           0.45        0.34          0.41       0.11        0.38       1.72
     23           0.45        0.34          0.44       0.11        0.36       1.73
     24           0.42        0.33          0.40       0.10        0.33       1.60
     25           0.48        0.35          0.47       0.12        0.39       1.83
     26           0.48        0.35          0.49       0.11        0.38       1.83
     27           0.55        0.39          0.46       0.11        0.36       1.89
     28           0.46        0.34          0.52       0.12        0.38       1.84
     29           0.43        0.30          0.56       0.11        0.38       1.80
     30           0.32        0.22          0.64       0.10        0.33       1.64
     31           0.34        0.23          0.63       0.10        0.34       1.66
     32           0.25        0.16          0.64       0.11        0.34       1.51
     33           0.22        0.15          0.68       0.08        0.28       1.43
     34           0.23        0.16          0.69       0.09        0.29       1.48
     35           0.21        0.14          0.69       0.08        0.28       1.43
     36           0.20        0.13          0.71       0.12        0.39       1.56
```

TABLE 14
(Continued)

DO DEFICIT COMPONENTS CALCULATED (MG/L)
JUNE 1967 VERIFICATION

SEGMENT	CARBONACEOUS STP LOADS	NITROGENOUS STP LOADS	INIT DEF.BOT.D OTH STPS.BOUN.	BOD5 SWAMP LOADS	NH3-N SWAMP LOADS	TOTAL DEFICIT
37	0.20	0.13	0.68	0.08	0.26	1.37
38	0.22	0.14	0.70	0.08	0.28	1.45
39	0.11	0.06	0.73	0.06	0.20	1.19
40	0.16	0.10	0.75	0.13	0.40	1.56
41	0.18	0.12	0.67	0.09	0.28	1.34
42	0.20	0.13	0.72	0.08	0.27	1.41
43	0.08	0.04	0.74	0.05	0.16	1.09
44	0.10	0.06	0.77	0.11	0.34	1.39
45	0.14	0.09	0.68	0.07	0.23	1.22
46	0.13	0.08	0.74	0.06	0.20	1.23
47	0.06	0.02	0.74	0.04	0.12	1.00
48	0.06	0.03	0.79	0.07	0.21	1.18
49	0.12	0.08	0.65	0.07	0.22	1.16
50	0.12	0.07	0.73	0.06	0.19	1.19
51	0.06	0.02	0.73	0.03	0.10	0.96
52	0.05	0.02	0.77	0.04	0.14	1.03
53	0.10	0.06	0.64	0.07	0.22	1.11
54	0.10	0.06	0.71	0.06	0.20	1.15
55	0.05	0.02	0.72	0.03	0.09	0.93
56	0.04	0.01	0.74	0.03	0.10	0.94
57	0.09	0.05	0.72	0.06	0.20	1.14
58	0.12	0.07	0.88	0.07	0.24	1.40
59	0.05	0.01	0.71	0.02	0.08	0.89
60	0.04	0.01	0.73	0.02	0.06	0.87
61	0.06	0.04	0.67	0.05	0.15	0.99
62	0.04	0.02	0.43	0.03	0.09	0.63
63	0.05	0.01	0.71	0.02	0.07	0.88
64	0.03	0.00	0.81	0.01	0.03	0.91
65	0.05	0.03	0.67	0.04	0.13	0.93
66	0.04	0.02	0.59	0.03	0.10	0.80
67	0.06	0.01	0.72	0.02	0.06	0.88
68	0.04	0.00	0.89	0.01	0.03	0.99
69	0.04	0.02	0.70	0.03	0.10	0.90
70	0.05	0.01	0.69	0.02	0.09	0.88
71	0.08	0.00	0.79	0.00	0.02	0.91
72	0.06	0.00	0.97	0.00	0.01	1.06

TABLE 14
(Continued)

DO DEFICIT COMPONENTS CALCULATED (MG/L)
JUNE 1967 VERIFICATION

SEGMENT	CARBONACEOUS STP LOADS	NITROGENOUS STP LOADS	INIT DEF.BOT.D OTH STPS.BOUN.	BOD5 SWAMP LOADS	NH3-N SWAMP LOADS	TOTAL DEFICIT
73	0.05	0.01	0.76	0.02	0.06	0.91
74	0.10	0.00	0.78	0.01	0.04	0.95
75	0.11	0.00	0.81	0.00	0.01	0.94
76	0.15	0.00	0.88	0.00	0.02	1.07
77	0.19	0.00	0.93	0.00	0.01	1.16
78	0.25	0.00	0.99	0.00	0.00	1.26
79	0.10	0.00	0.67	0.00	0.00	0.79
80	0.19	0.00	0.97	0.00	0.01	1.19
81	0.25	0.00	1.00	0.00	0.01	1.27
82	0.31	0.00	1.05	0.00	0.00	1.38
83	0.29	0.00	1.03	0.00	0.00	1.33
84	0.31	0.00	1.04	0.00	0.00	1.37
85	0.30	0.00	1.03	0.00	0.00	1.35
86	0.31	0.00	1.03	0.00	0.00	1.36
87	0.18	0.00	0.40	0.00	0.00	0.59
88	0.30	0.00	1.01	0.00	0.00	1.32
89	0.31	0.00	1.00	0.00	0.00	1.32
90	0.21	0.00	0.45	0.00	0.00	0.66
91	0.26	0.00	0.96	0.0	0.00	1.23
92	0.26	0.00	0.97	0.00	0.00	1.24
93	0.22	0.00	0.96	0.00	0.00	1.19
94	0.09	0.00	0.98	0.00	0.00	1.08
95	0.19	0.00	0.95	0.00	0.00	1.15
96	0.17	0.00	0.97	0.00	0.00	1.14
97	0.24	0.00	0.49	0.00	0.00	0.74
98	1.02	3.11	1.94	0.01	0.03	6.14
99	1.29	3.93	0.74	0.17	0.35	6.51
100	1.41	3.49	0.36	0.68	1.27	7.22
101	1.61	3.42	0.35	0.84	1.45	7.70
102	1.92	3.36	0.45	0.68	0.92	7.35
103	0.08	0.22	2.07	0.00	0.00	2.38
104	0.21	0.56	2.05	0.00	0.00	2.85
105	0.33	0.86	2.02	0.00	0.01	3.23
106	0.90	2.36	1.85	0.01	0.03	5.18
107	1.68	4.17	1.59	0.02	0.07	7.55
108	2.21	4.33	1.33	0.03	0.08	8.00

TABLE 14
(Continued)
DO DEFICIT COMPONENTS CALCULATED (MG/L)
JUNE 1967 VERIFICATION

SEGMENT	CARBONACEOUS STP LOADS	NITROGENOUS STP LOADS	INIT DEF.BOT.D OTH STPS.BOUN.	BOD5 SWAMP LOADS	NH3-N SWAMP LOADS	TOTAL DEFICIT
109	2.65	4.09	1.12	0.05	0.09	8.03
110	2.85	3.94	0.95	0.07	0.13	7.96
111	2.80	3.96	0.76	0.12	0.25	7.91
112	2.52	4.19	0.59	0.18	0.42	7.92
113	4.17	1.57	2.19	0.11	0.22	8.29
114	3.71	3.00	1.12	0.16	0.45	8.45
115	2.60	3.44	0.66	0.17	0.59	7.49
116	2.08	3.38	0.54	0.18	0.64	6.83
117	1.65	3.17	0.47	0.18	0.64	6.12
118	0.07	0.15	0.05	2.65	5.56	8.50
119	0.15	0.37	0.27	0.89	2.99	4.70
120	0.31	0.73	0.42	0.34	1.21	3.03
121	0.98	3.80	1.10	0.07	0.49	6.47
122	2.34	3.67	1.90	0.06	0.39	8.38
123	1.24	4.25	1.07	0.04	0.37	6.98
124	0.69	2.52	0.59	0.05	0.32	4.19
125	0.38	1.10	0.47	0.07	0.29	2.3[illegible]
126	0.02	0.02	0.03	1.05	3.22	4.3[illegible]
127	0.09	0.07	0.29	0.34	1.04	1.85
128	0.21	0.17	0.46	0.31	0.95	2.12
129	0.42	0.16	0.00	2.22	4.91	7.73
130	0.70	0.25	0.01	2.23	4.93	8.14
131	1.01	0.35	0.07	2.10	4.46	8.01
132	1.43	0.70	0.38	0.83	2.77	6.14
133	1.37	0.71	0.73	0.35	1.23	4.41
134	0.89	0.52	0.60	0.21	0.75	2.99
135	2.17	1.22	0.61	0.11	0.37	4.51
136	1.90	1.08	0.56	0.12	0.38	4.05
137	1.45	0.85	0.52	0.12	0.38	3.34
138	1.07	0.65	0.49	0.11	0.38	2.72
139	0.75	0.49	0.48	0.11	0.37	2.21
140	1.37	0.95	0.57	0.15	0.41	3.45
141	0.72	0.54	0.45	0.10	0.33	2.15

The BOD$_5$ and ammonia nitrogen treatment plant effluent loads are shown in Table 15. Reaction rates were those employed in the June, 1967 verification adjusted for temperature. Due to large loadings it was necessary to suppress both carbonaceous and nitrogenous reaction rates in certain areas to insure that calculated deficits did not exceed the available oxygen concentration (C_s). Initial wastewater deficits, bottom demand, and marsh effects were those employed in the June, 1967 verification. The calculated dissolved oxygen deficit and the observed data on the main transect of the Bay are shown in Figure 9.

The foregoing analysis presents a moderate degree of model verification on the main bay transect and in the sloughs. The effects of seasonal temperature and hydrograph variations are satisfactorily included in the analysis. The inclusion of known point and non-point source loadings to the system suggests that significant background loadings of carbonaceous and nitrogenous BOD leach from marsh areas adjacent to some of the sloughs. The present model is verified with loadings from these marsh areas, which were assigned on the basis of observed BOD and dissolved oxygen concentrations in the effected areas. In this regard, a principal loading to the model is not based on measured loading rates, and as such is subject to refinement as additional data becomes available. These verifcation analyses, and the projection analysis presented in this report, suggest that additional information on the magnitude of this non-point source be more accurately quantified.

TABLE 15

CARBONACEOUS AND NITROGENOUS BOD DISCHARGES

Summer 1960-64 UCBS

Discharger	Biochemical Oxygen Demand		Ultimate Oxygen Demand		Discharge Segment
	Carbonaceous lbs/day	Nitrogenous lbs/day	Carbonaceous lbs/day	Nitrogenous lbs/day	
San Jose*	150,000	10,400	225,000	46,000	103
Union #2, Irvington	1,780	724	2,680	3,160	113
Sunnyvale	8,390	2,100	12,600	9,400	122
Mt. View	4,000	830	6,000	3,720	140
Palo Alto	5,280	1,660	7,900	7,500	135
Union #1, Newark*	5,580	673	8,400	3,040	133
Menlo Park	4,660	1,140	7,000	5,100	32
San Carlos	4,900	990	7,350	4,450	48
Redwood City	4,400	1,550	6,600	7,000	48
Hayward*	15,800	1,860	23,800	8,350	61
Oro Loma	12,500	3,300	18,750	14,700	61
San Mateo	6,760	1,740	10,200	7,850	64
Burlingame	2,220	555	3,340	2,500	68
So. San Francisco	14,400	2,170	21,600	9,800	72
S.F. Int. Airport	1,690	199	2,540	900	72
Millbrae	1,500	430	2,250	1,940	72
San Leandro*	9,600	981	14,400	4,430	73
S.E. San Francisco	25,100	5,273	37,600	23,700	82
EBMUD*	194,000	16,100	291,000	72,500	88
North Point S.F. Sewers	70,690	9,100	106,000	41,000	89

* Dischargers containing at least 20 percent canning waste.

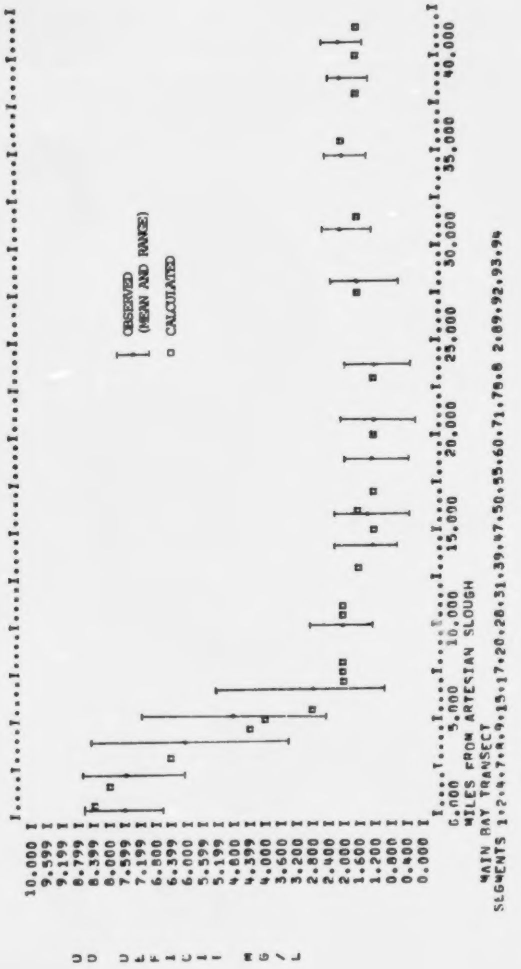

Figure 9
VERIFICATION ANALYSIS
Summer 1960 - 1964

IV. MODEL PROJECTIONS

A. Dissolved Oxygen Analysis

The verified water quality model was applied to evaluate water quality responses in South San Francisco Bay for each alternative wastewater management program for the Sotuth Bay Dischargers Authority. The verification analyses presented in the previous chapter showed that dissolved oxygen levels in South San Francisco Bay are principally affected by the oxidation of carbonaceous and nitrogenous materials from point source municipal treatment plant laods, benthal oxygen demand, and organic materials from marsh areas. Previous studies have indicated the importance of seasonal effects such as increased treatment plant loads during the August and September canning season, and urban and other storm related runoff during the wet season from October through May. These factors are also included in the water quality analysis described in this chapter.

1. Management Alternatives

Each of the management alternatives described in Chapter I. was evaluated under average dry period conditions, canning season conditions and average wet period conditions for 1985 and 1995. Table 16 displays anticipated South Bay Dischargers effluent characteristics for these periods. This data and projected treatment plant flow estimates were used to calculate seasonal ultimate oxygen demand loads from each discharger in 1985 and 1995. These loads are summarized in Table 17.

The four management alternatives are described further in Table 18. The No Project Alternative and the No Project Alternative with San Jose providing upgraded treatment require that the South Bay Dischargers utilize their present outfall sites, San Jose/Santa Clara in model segment 103, Sunnyvale in segment 122, and Palo Alto in segment 135. For the Nearest Deepwater Alternative, where each discharge is required to discharge at the nearest deep water location, San Jose/Santa Clara and Sunnyvale combine effluent flows and discharge at segment 9, while Palo Alto discharges to segment 14. Under the final alternate three dischargers

TABLE 16

SOUTH BAY DISCHARGERS

Anticipated Plant Operating Data*

Effluent Parameter	San Jose / Santa Clara Canning	San Jose / Santa Clara Non-Canning	Sunnyvale	Palo Alto
BOD_5, mg/l	10	10	5	12
NH_3-N, mg/l	1.5	1.5	2.5	5.5
SS, mg/l	5	5	8	10

*data supplied by Bechtel for nitrified, filtered effluent

TABLE 17

PROJECTED ULTIMATE OXYGEN DEMAND LOADS

South Bay Dischargers

			Ultimate Oxygen Demand lbs/day		
South Bay Discharger	Year and Season	Flow* mgd	Carbonaceous Demand	Nitrogenous Demand	Total UOD
San Jose	1985				
	Dry	112	14,000	6,400	20,400
	Canning	143	17,800	8,150	25,950
	Wet	112	14,000	6,400	20,400
	1995				
	Dry	134	16,800	7,650	24,450
	Canning	165	20,600	9,400	30,000
	Wet	134	16,800	7,650	24,450
Sunnyvale	1985				
	Dry	15.7	985	1,500	2,485
	Canning	26.5	1,660	2,520	4,180
	Wet	15.7	985	1,500	2,485
	1995				
	Dry	23.0	1,440	2,200	3,640
	Canning	30.0	1,880	2,860	4,740
	Wet	23.0	1,440	2,200	3,640
Palo Alto	1985				
	Dry	29.8	4,480	6,250	10,730
	Canning	29.8	4,480	6,250	10,730
	Wet	29.8	4,480	6,250	10,730
	1995				
	Dry	30.4	4,570	6,400	10,970
	Canning	30.4	4,570	6,400	10,970
	Wet	30.4	4,570	6,400	10,970

*projected waste flows supplied by Bechtel

TABLE 18

MODEL INPUT FOR MANAGEMENT ALTERNATIVES

				MODEL INPUT		
ALTERNATIVES	YEAR	SEASON	DISPOSAL SEGMENT	WASTE FLOW mgd	UOD LOAD lbs/day	DEFICIT LOAD lbs/day
1. NO PROJECT	1985	DRY	103	112	20,400	3730
			122	15.7	2,485	523
			135	29.8	10,730	990
		CANNING	103	143	25,950	4770
			122	26.5	4,180	885
			135	29.8	10,730	990
		WET	103	112	20,400	3730
			122	15.7	2,485	523
			135	29.8	10,730	990
	1995	DRY	103	134	24,450	4470
			122	23	3,640	765
			135	30.4	10,970	1010
		CANNING	103	165	30,000	5500
			122	30	4,740	1000
			135	30.4	10,970	1010
		WET	103	134	24,450	4470
			122	23	3,640	765
			135	30.4	10,970	1010
2. NEAREST DEEPWATER	1985	DRY	9	127.7	22,885	4253
			14	29.8	10,730	990
		CANNING	9	169.5	30,130	5655
			14	29.8	10,730	990
		WET	9	127.7	22,885	4253
			14	29.8	10,730	990
	1995	DRY	9	157	28,090	5235
			14	30.4	10,970	1010
		CANNING	9	195	34,740	6500
			14	30.4	10,970	1010
		WET	9	157	23,090	5235
			14	30.4	10,970	1010
3. DP 31	1985	DRY	31	157.5	33,615	5243
		CANNING	31	199.3	40,860	6645
		WET	31	157.5	33,615	5243
	1995	DRY	31	187.4	39,060	6245
		CANNING	31	225.4	45,710	7510
		WET	31	187.4	39,060	6245

TABLE 18 (cont.)

MODEL INPUT FOR MANAGEMENT ALTERNATIVES

				MODEL INPUT		
ALTERNATIVES	YEAR	SEASON	DISPOSAL SEGMENT	WASTE FLOW mgd	UOD LOAD lbs/day	DEFICIT LOAD lbs/day
4. NO PROJECT, SAN JOSE UPGRADED	1985	DRY	103	112	11,000	3730
			122	15.7	2,485	523
			135	29.8	10,730	990
		CANNING	103	143	11,000	4770
			122	26.5	4,180	885
			135	29.8	10,730	990
		WET	103	112	11,000	3730
			122	15.7	2.485	523
			135	29.8	10,730	990
	1995	DRY	103	134	11,000	4470
			122	23	3,640	765
			135	30.4	10,970	1010
		CANNING	103	165	11,000	5500
			122	30	4,740	1000
			135	30.4	10,970	1010
		WET	103	134	11,000	4470
			122	23	3,640	765
			135	30.4	10,970	1010

discharge through at combined outfall terminating at disposal point 31 (segment 31).

Table 17 was used to develop the wastewater effluent flow and UOD loading values presented in Table 18. The UOD loading from San Jose/Santa Clara for the No Project alternative with San Jose/Santa Clara upgraded is 11,000 lbs/day. Alternatives 1 and 4, are, therfore, identical except for the San Jose/Santa Clara loading. The deficit load is obtained by assuming that the effluent flow has a deficit of 4 mg/l.

2. Unit Response Analysis

Each alternative has one, two, or three disposal sites. A unit UOD load of 10,000 lbs/day and a unit deficit load of 1,000 lbs/day were input at each disposal site to develop unit responses for each loading to the model. The appropriate system transport for each projection year and season was imposed on the model and the deficit response of San Francisco Bay was calculated for each principal loading or group of loadings to the system. This is called a unit response analysis.

Unit response analysis permits the analyst to gain valuable insight into the response of a water body to individual loadings. By this means the major factors contributing to the observed or projected water quality response can be isolated and studied. Often the information developed in such an analysis points to one or two factors which dominate the water quality response, and must therefore be controled to effect water quality improvements.

As an example, a BOD related Dissolved Oxygen deficit unit response for the San Jose/Santa Clara treatment facility consists of three parts. The first is the BOD_u response in the Bay Waters, which is simply the concentrations of BOD_u throughout the bay system due to that single loading. The second portion of the unit response is the dissolved oxygen deficit due to oxidation of the BOD_u from the plant (i.e. from the BOD_u unit response). The third portion is the distribution of disoslved oxygen deficit contributed by the deficit in the treatment plant effluent.

Unit responses are additive. The sum of all the unit responses of a water quality variable to a water system is equal to the total water quality response. As such, one can use the unit responses to compare the relative contribution of a single load or group of loads to other loads or to the overall water quality response. In a similar manner the effects of removing portions of loads can be evaluated by multiplying the appropriate unit response by the expected percent removal and subtracting the effect of that portion of the loading from the overall response.

A convenient method of presenting unit responses is to develop the unit responses for a load of constant magnitude in each alternative disposal location.

In this study each of the disposal segments listed in Table 18 was subjected in a loading of 10,000 pounds/day of ultimate BOD, 1,000 pounds/day of effluent dissolved oxygen deficit, and 10,000 pounds/day of conservative material. Unit responses were generated for all combinations of disposal segment, seasonal runoff, and bay circulation. The unit response computed in this analysis are for:

1) BOD_u concentration
2) Dissolved oxygen deficit concentration
3) Conservative substance concentration

The BOD_u and dissolved oxygen deficit unit responses are contained in Appendix B.

3. Other Factors Influencing Dissolved Oxygen Concentration

Other factors identified during the verification analysis as principal contributors to dissolved oxygen concentration variations were included in the projections. Estimates of the loads from other discharges were obtained from previous studies$^{(2)}$ or were updated by Bechtel. Table 19 summarizes these loads. Bottom demand values developed in the model verification were applied. Marsh loads were based on those developed in the verification analysis and were adjusted for seasonal temperature. Future urban and other runoff flows were obtained from estimates contained in Kaiser Engineers

TABLE 19. OTHER DISCHARGERS - ULTIMATE OXYGEN DEMAND LOADS

DISCHARGER	DISCHARGE SEGMENT	1985 UOD				1995 UOD			
		Wasteflow mgd	Carbon. lbs/day	Nitrog. lbs/day	Total lbs/day	Wasteflow mgd	Carbon. lbs/day	Nitrog. lbs/day	Total lbs/day
SOUTH BAY SIDE *	55	21.4	2680	6200	8880	23.1	2900	6650	9550
EBDA *	81	52.	19500	31100	50600	59.	22100	35200	57300
EBMUD	88	117	126000	87000	213000	122	132000	92000	224000
N. POINT STP	92	66.5	72000	50000	122000	69.5	75000	52000	127000
S.E. SAN FRANCISCO STP	84	26	28000	19500	47500	27	29000	20500	49500
SAN MATEO NORTH	75	21	6400	12200	18600	22	6900	13800	20700
SAN MATEO CENTRAL	55	14	4200	8000	12200	15	4700	8900	13600
SAN MATEO SOUTH	47	19	5900	11000	16900	25	7300	14000	21300

* data from Bechtel

1968 report(1) and from analysis of USGS flow records. Urban and other runoff occurs only during the wet season.

Th deficit response of the system to these inputs was calculated for dry (June - September) and wet (October - May) seasons. The deficit response for these non-point source loads is contained in Appendix B, Table 10.

4. Dissolved Oxygen Saturation

Dissolved oxygen saturation is a function of temperature and chloride concentration. Temperature values for the projections were based on observed temperatures during wet and dry seasons. Chloride levels in the Bay, especially in the area south of Dumbarton Bridge, will be effected significantly by the discharge alternative. Therefore, the model was used to predict chloride concentrations for the No Project, Nearest Deep Water and Disposal Point 31 alternatives for dry and wet conditions. Appendix B, Table 11, displays the projected chloride concentrations.

The calculated chloride concentrations and assigned temperature values were used to determine Dissolved Oxygen saturation levels throughout the model. Dissolved Oxygen saturation for the No Project, the Nearest Deep Water and the Disposal Point 31 Alternatives, for dry and wet seasons, is included in the tables in Appendix C.

5. Projected Mean Dissolved Oxygen Concentration

The mean projected dissolved oxygen distribution for a particular discharge alternative, season, and project year is developed by adding the unit deficit responses due to the South Bay Discharger's UOD loading and effluent deficit loading (multiplied by appropriate scale factors) to the deficit responses of the other dischargers, bottom demand, marsh load and urban and other runoff, to obtain the total deficit response. The total deficit for each segment is then subtracted from the segment dissolved oxygen saturation concentration.

The scale factors by which the various unit responses are multiplied is the ratio of the projected load to the corresponding loadings used in the unit response analysis. In all the projection analyses the bottom demand and marsh loadings are assumed to be unchanged under alternative discharge conditions.

Calculated components of the dissolved oxygen deficit, saturation level, and the resultant mean dissolved oxygen concentrations throughout the Bay are tabulated in the first eight columns of the Projection Results which appear in Appendix C, Tables 1 through 24.

6. Lower Ninety Percentile Dissolved Oxygen Concentration

The Dissolved Oxygen Concentration objective for South Bay waters, at Level B protection is presented in Figure 2. Level B protection is described in terms of a lower 90 percentile dissolved oxygen concentration. Ninety percent of the observed concentrations must be equal to or greater than that value.

The San Francisco Bay Model performs steady state analysis. The projection DO distributions presented in Appendix C tables 1 through 24 are mean dissolved oxygen concentrations. As such a direct comparison with the 90 percentile standard is inappropriate. In addition the "absolute minimum" concentration, required by the standard is 5.0 mg/l.

In order to evaluate the discharge alternatives relative to these standards it was necessary to:

> Establish a functional form relating the 90 percentile dissolved oxygen concentration for Level B protection to dissolved oxygen saturation (Chapter II)
>
> Develop a method for computing the variations from the mean dissolved oxygen concentration which is associated with the lower 90 percentile concentration.
>
> Compute the corresponding 90 percentile dissolved oxygen concentration from the computed steady state mean concentrations.
>
> Compare the adjusted model results to the Level B Protection standard and the minimum dissolved oxygen standard of 5.0 mg/l.

a. Level B Dissolved Oxygen objectives

Dissolved oxygen saturation concentrations given in Appendix C, are in the range: 7.5 to 10.5 mg/l. The Level B objective curve (Figure 2) was approximated by a straight line function for this range of projected saturation concentrations so that the Level B objectives could be computed from consideration of dissolved oxygen saturation. The functional form is stated:

$$\text{90 percentile objective D.O.} = .475\, C_s + 2.3 \qquad \text{(V-1)}$$

where C_s = dissolved oxygen saturation at prevailing temperature and chloride concentration

b. Dissolved Oxygen Data Variability

To determine the difference between the average dissolved oxygen concentration and the lower 90 percentile concentration a statistical analysis of observed dissolved oxygen deficit data was performed. Dry season (June-Sept.) and wet season (October-May) data available from the self-monitoring program were used. Measured water temperature and chlorosity data were used to calculate dissolved oxygen saturation. Subtracting the observed dissolved oxygen from the calculated saturation yields the dissolved oxygen deficit. Analyzing deficit data eliminates variability due to changes in saturation. Frequency plots of the deficit data for several stations during dry and wet periods were developed. These data were found to be normally distributed. The average deficit and standard deviation of the deficit data were obtained from the frequency distribution of deficit at each station. Figure 10 summarizes the observed deficit variability. The figure is a cross plot of the mean observed deficits versus the observed standard deviation. Note that as the mean deficit increases, the variability of the observations generally increases.

The relationship between the mean and standard deviation was represented by the straight line shown in Figure 10. The equation of the line is:

$$\sigma_{DEF} = 0.4 + .25\,(\overline{DEF}) \qquad \text{(V-2)}$$

where:

$\overline{DEF}$ = mean dissolved oxygen deficit concentration (mg/l)

σ_{DEF} = standard deviation of dissolved oxygen deficit concentration (mg/l)

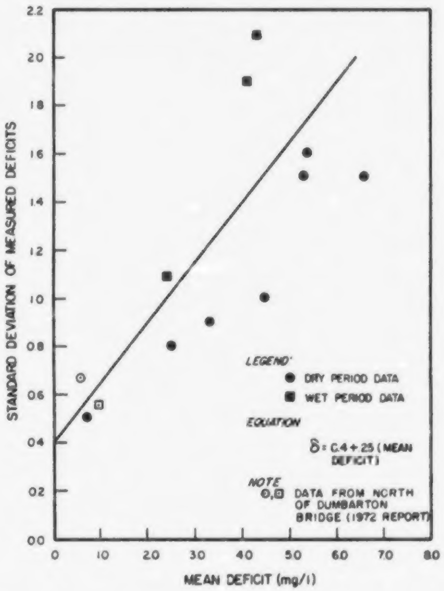

FIGURE 10

MEAN DEFICIT VS STANDARD DEVIATION OF MEASURED DEFICIT

Using Cumulative Normal Frequency Distribution Tables, which express the percentage points of the normal distribution as a function of deviations from the mean, the data can be described in terms of the mean and lower 90 percent value as follows:

$$\text{lower 90 percentile deficit} = .512 + .32\ (\overline{DO}) \qquad \text{(V-3)}$$

The mean Dissolved oxygen deficit computed by the steady state model can, therefore, be used to compute the Lower 90 percentile values using equation (V-3) which is based on the observed variability of deficit in the region. This analysis is subject to qualifications which are stated as follows:

1. The variability computation is based on present conditions. This variability may change somewhat under alternative discharge conditions.

2. Equation (V-2) has a large probable error range.

Both of these factors have been considered in the development of the projection methodology. While there may be inaccuracy in the use of equations (V-2,3), the inaccuracy is believed to be within an acceptable range, and in any event, conservative from the standpoint of evaluating alternatives relative to the standard. The ninth column in Appendix C, Tables 1 through 24 is the projected lower 90 percentile dissolved oxygen concentrations calculated from the mean deficit (sixth column) and the dissolved oxygen computed saturation concentration (seventh column). The tenth (last) column of these Tables is the Level B objective based on the saturation concentration in each segment.

Comparison of the projected lower 90 percentile dissolved oxygen concentration (ninth column) and Level B objective (tenth column) indicates achievement of, or non-compliance with, the Level B objective. Figure 1 through 24 show projected lower 90% dissolved oxygen concentrations for the main Bay Transect, Artesian Slough, and Guadalupe Slough for the various discharge alternatives, seasons and target years. Also shown on the displays are dissolved oxygen saturation, Level B objective, and the minimum dissolved oxygen concentration standard of 5.0 mg/l.

c. **Absolute Minimum Dissolved Oxygen-5.0 mg/l**

The statistical analysis of the deficit data can also be used to determine the frequency of accurance of dissolved oxygen concentations less than 5.0 mg/l. Each projected mean deficit, as calculated by the water quality model, represents the 50 percentile value. The variation about the mean to define the 90 percentile value can be calculated. Similarly the frequency of other variations about the mean to produce a given dissolved oxygen concentration can be calculated. These variations, for a particular mean deficit, lie on a straight line when plotted on normal probability paper. Figure 11 displays the probable variations about the mean for selected mean calculated deficit values. For each management alternative, season, and target year, the mean total deficit is calculated and used in computing the mean dissolved oxygen concentration. The difference between the computed mean dissolved oxygen and 5.0 mg/l represents the variation in the mean deficit which would cause the dissolved oxygen concentration to be less than 5.0 mg/l. Using Figure 11, the probability of that variation occurring for the particular mean deficit can be estimated.

Example 1 - if the mean deficit concentration is 1.5 mg/l, ten percent of the time random variability in the dissolved oxygen deficit concentration will cause the deficit to be greater than 2.5 mg/l. (10 percentile deviation from the mean deficit is 1.0 mg/l)

Example 2 - if saturation is 9.9 mg/l and the computed mean deficit is 3.0 mg/l, Figure 11 indicates that 5% of the time background variations in deficit concentration will cause dissolved concentrations to drop below 5.0 mg/l.

B. Relative Toxicity Analysis

1. Basis of Analyses

The water quality model was used to calculate the unit response of the Bay waters to a unit load of 10,000 lbs/day of a conservative material. The load was introduced at each alternate disposal segment under appropriate flow conditions. These unit responses are presented in Tables 1 through 3 in

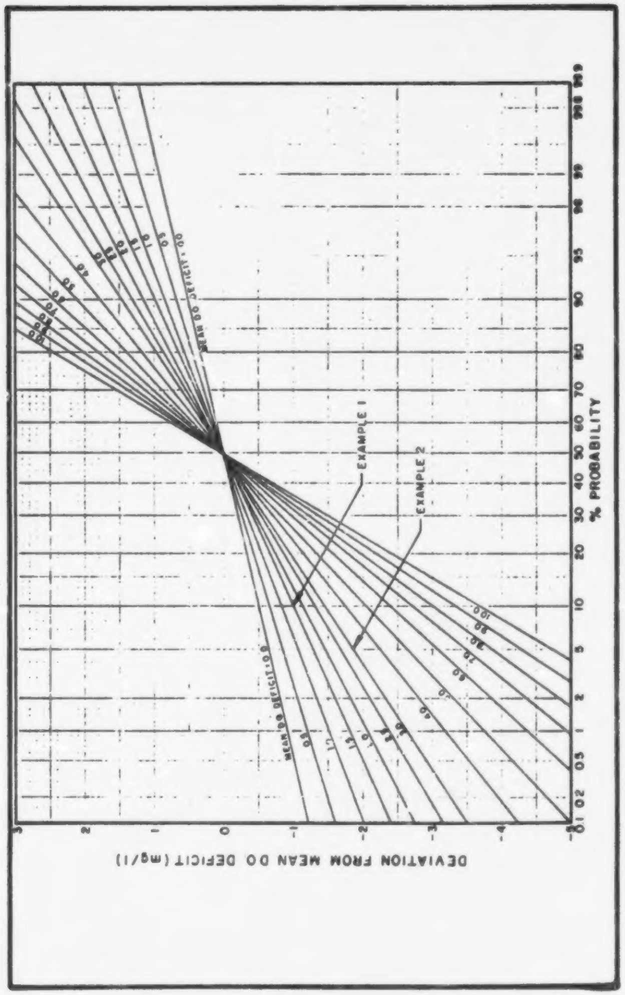

FIGURE 11
FREQUENCY DISTRIBUTION OF D.O. DEFICIT AS A FUNCTION OF MEAN D.O. DEFICIT

Appendix A. The response to a load of different magnitude is obtained by multiplying the segment concentrations by an appropriate (load dependent) scale factor.

The water quality response due to all South Bay Dischargers for a particular alternative, can be obtained by summing the scaled responses calculated from each individual disposal site. The conservative material unit responses are appropriate in describing the distribution of materials such as silica, total nitrogen, total phosphorus, and relative toxicity.

Although relative toxicity concentration is not subject to water quality standards (see Chapter II Water Quality Objectives) toxicity is used as a criterion in plan evaluation. Toxicity discharges are usually expressed in terms of flow, normally MGD. A detailed discussion of relative toxicity and its usefullness in water quality analysis studies is contained in reference (2).

2. Toxicity from South Bay Discharges

Relative toxicity concentrations resulting from toxicity loads of the South Bay Discharges were calculated for dry and wet seasons for No Project, Nearest Deep Water, and Disposal Point 31 Alternatives. The toxicity loads were calculated based on the assumption that 95% of the test organisms survive a bioassay test in undiluted effluent. The toxicity concentration is then calculated to be 0.4 toxic units and the toxicity loading, in MGD, is the waste flow multiplied by 0.4. The toxicity loadings for 1995 for the various alternatives are given in Table 20.

TABLE 20

RELATIVE TOXICITY LOADINGS -1985

Alternative	Season	Segment	Relative Toxicity Loading Rate	
			MGD	lbs/day
1. No Project	Dry	103	55.3	460,000
		122	9.5	79,000
		135	12.5	104,000
	Wet	103	55.3	460,000
		122	9.5	79,000
		135	12.5	104,000
2. Nearest Deep Water	Dry	9	64.8	540,000
		14	12.5	104,000
	Wet	9	64.8	540,000
		14	12.5	104,000
3. DP 31	Dry	31	77.3	643,000
	Wet	31	77.3	643,000

V. DISCUSSION OF RESULTS

A. Dissolved Oxygen Concentration Projections

Summary displays of projected dissolved oxygen concentrations on the Main Bay transect and in Artesian and Guadalupe Sloughs, for each discharge alternative, season, and design year are presented in the Appendix D. The Dissolved Oxygen saturation, the Level B dissolved oxygen concentration objective and absolute minimum dissolved oxygen standard of 5.0 mg/l are also shown. The calculated mean dissolved oxygen concentration profiles (50 percentile values) and computed lower 90% percentile dissolved oxygen concentration profiles are shown in the figures for comparison to the standards. These Figures are supplements to the results presented in Appendix C.

No Project, 1985, Dry Season results, Figures 12-21, show that Level B objectives are not achieved in any of the sloughs, Coyote Creek, or in the main bay transect upstream of mile point 6.0. After achieving Level B for a short distance 90 percentile values fall below Level B in the vicinity of Dumbarton Bridge. A dissolved oxygen concentration of 5.0 mg/l is achieved 90% in portions of Mud, Guadalupe, and Mayfield Sloughs, and downstream of milepoint 2.0 in the main transect. Canning season results are similar to Dry Season with slightly lower calculated DO levels. Level B compliance is not realized in the main bay transect upstream of milepoint 6.0 (Appendix D, Figure 2).

Higher dissolved oxygen levels and overall improvements in achieving dissolved oxygen objectives are observed during the Wet Season. Level B is met downstream of milepoint 3.0 in the main transect and in portions of Guadalupe and Mayfield Sloughs, and portions of Coyote Creek. A dissolved oxygen concentration of 5.0 mg/l is achieved 90% of the time everywhere in the main bay transect and in additional portions of all sloughs except Artesian. Dissolved Oxygen improvements during the wet season occur because of higher saturation values, and the advective flow resulting from storm related runoff in sloughs where there are no waste discharges. 1995 results are essentially the same as the 1985 results. The detailed displays of 1995 conditions are contained in Appendix D.

No Project - 1985 - Dry Season

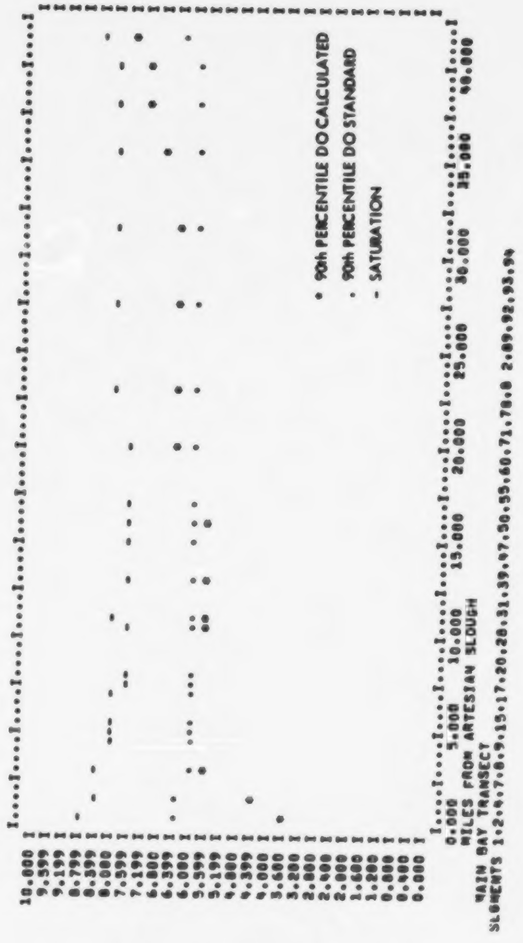

Figure 12 Water Quality Model Results

No Project - 1985 - Dry Season

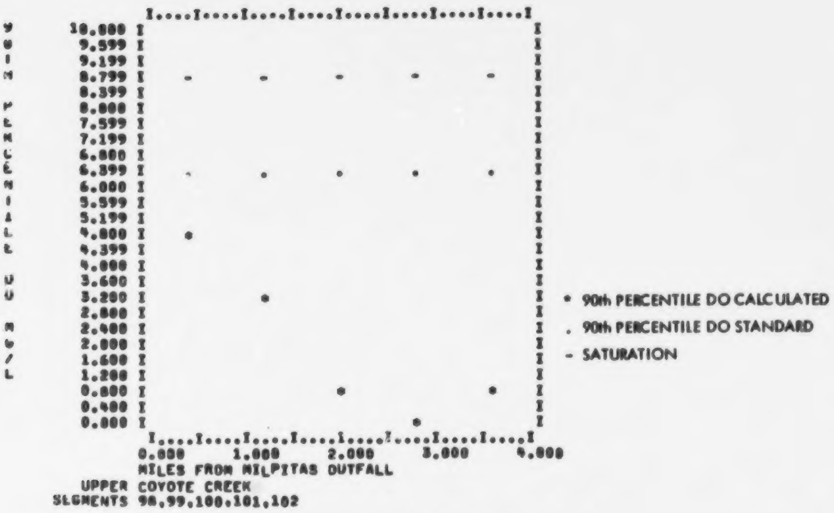

Figure 13 Water Quality Modeling Results

No Project - 1985 - Dry Season

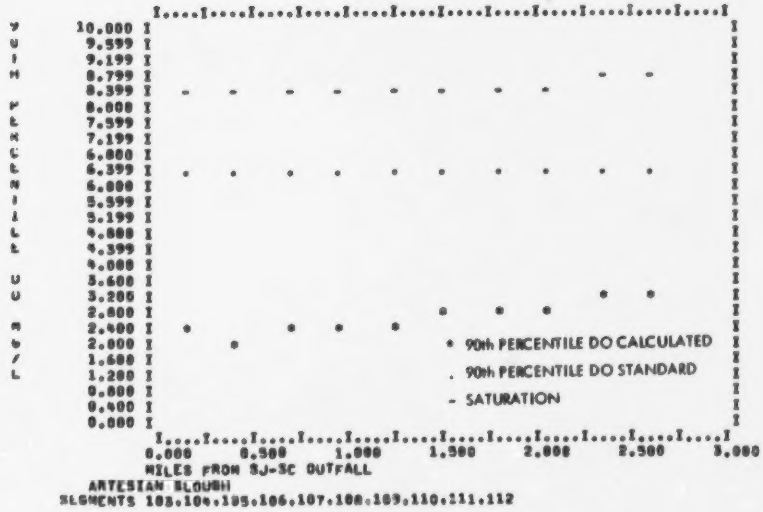

Figure 14 Water Quality Modeling Results

No Project - 1985 - Dry Season

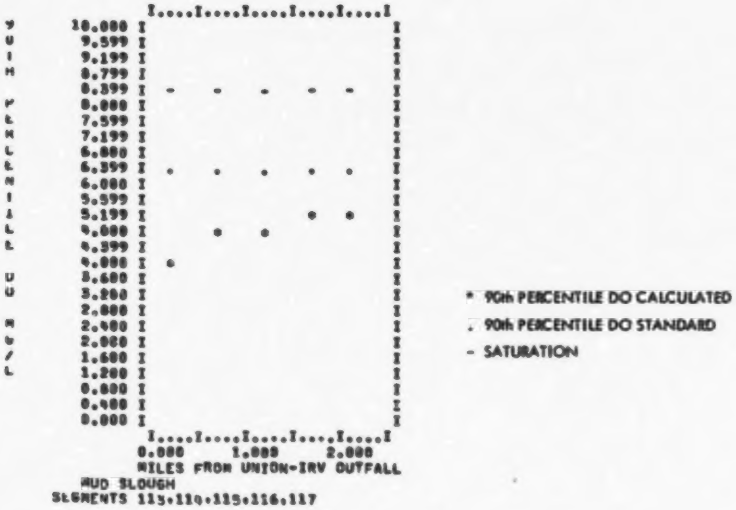

Figure 15 Water Quality Modeling Results

No Project - 1985 - Dry Season

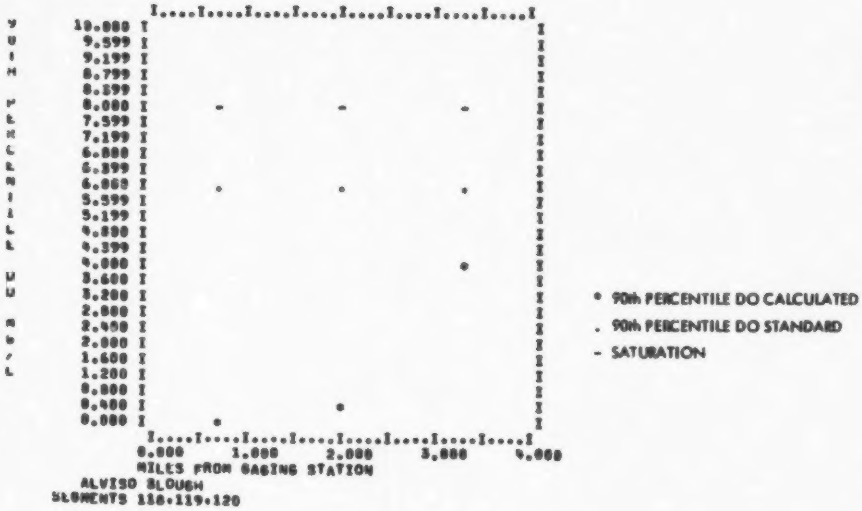

Figure 16 Water Quality Modeling Results

No Project - 1985 - Dry Season

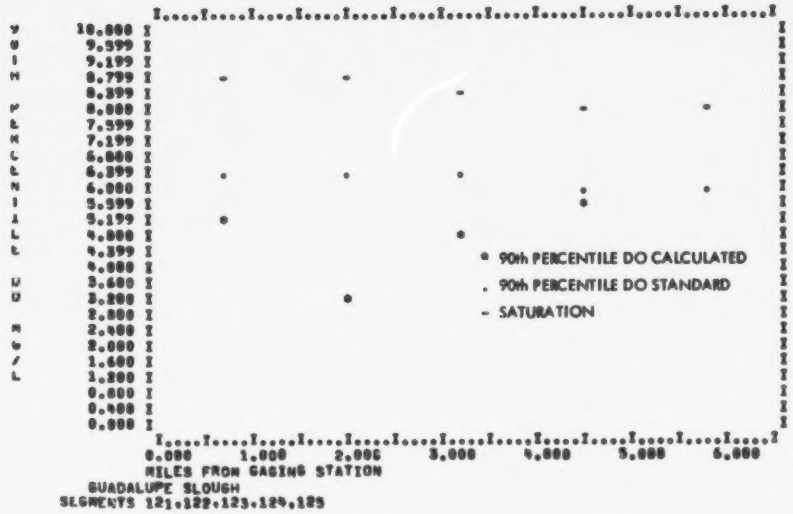

Figure 17 Water Quality Modeling Results

No Project - 1985 - Dry Season

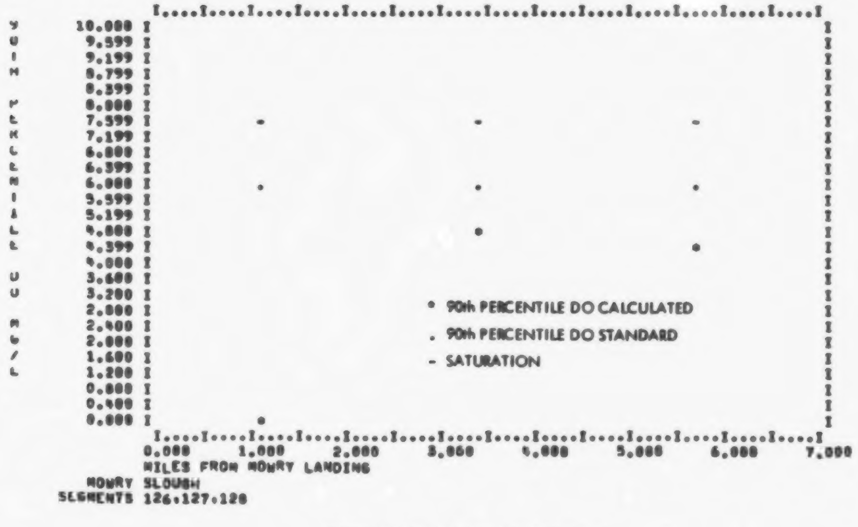

Figure 18 Water Quality Modeling Results

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No Project - 1985 - Dry Season

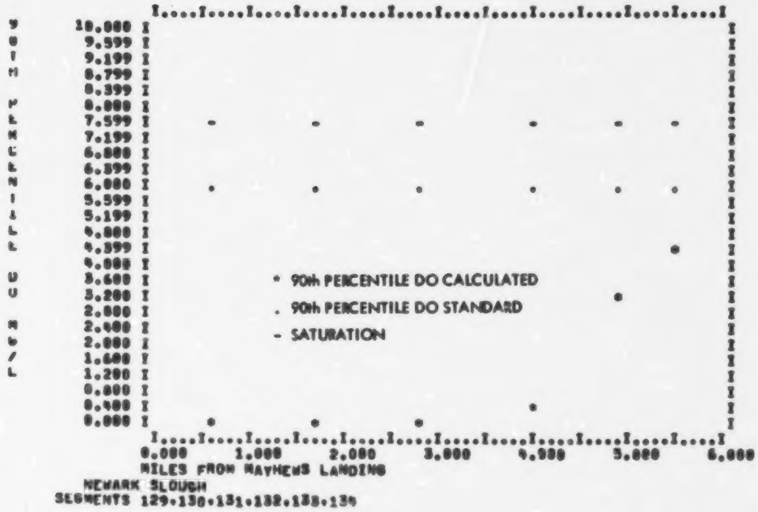


Figure 19 Water Quality Modeling Results

No Project - 1985 Dry Season

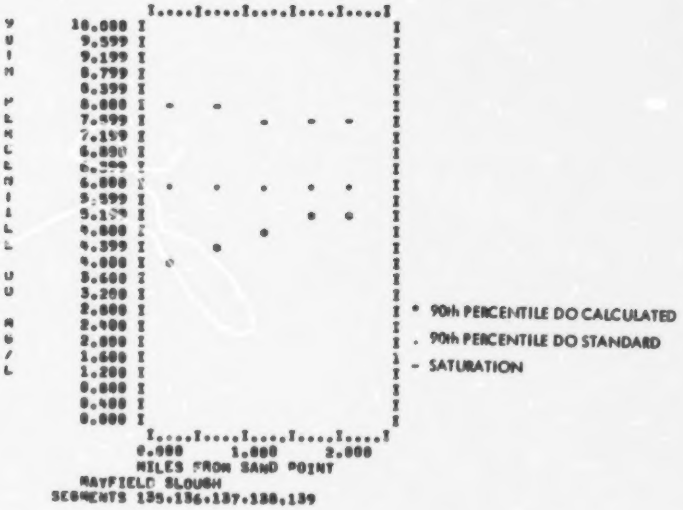


Figure 20 Water Quality Modeling Results

No Project - 1985 - Dry Season

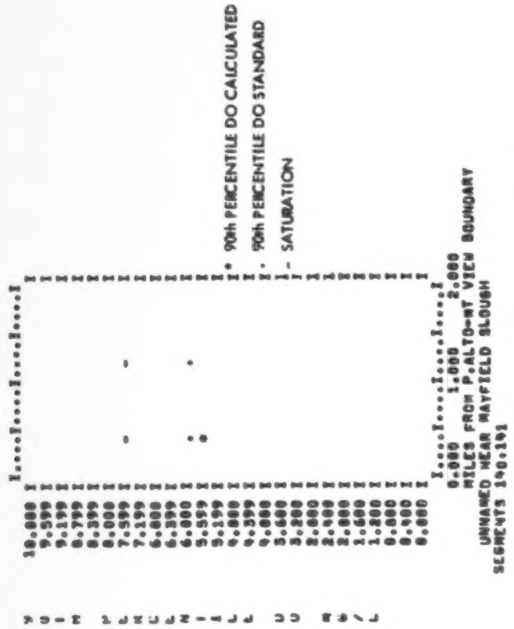


Figure 21 Water Quality Modelling Results

No Project, San Jose/Santa Clara Upgraded, 1985 Dry Season results (Figure 23 and Appendix C) show the effect of reducing the oxygen demand loading in Artesian Slough. The lower 90% dissolved oxygen concentration increases by 1.0 mg/l at the downstream end of Artesian Slough over the No Project, 1985, Dry Season values (Figure 22). Level B is achieved downstream of MP 5.0 in the main transect but falls slightly below Level B in the vicinity of Dumbarton Bridge. The 5.0 mg/l minimum is achieved with at least 90% frequency over the entire main bay transect. Small portions of Coyote Creek and Mud Slough achieve 5.0 mg/l minimums 90% of the time for this condition. Canning Season results for upgraded treatment at San Jose/Santa Clara are the same as those computed during the Dry Season for upgraded treatment.

During the wet season the minimum dissolved oxygen concentration of 5.0 mg/l occurs less than 90% of the time downstream of milepoint 1.5 on Artesian Slough. Level B compliance is achieved downstream of milepoint 2.0 in the main transect. In all other regions of the study area the effects of upgrading the treatment process at San Jose/Santa Clara are below the level of detection. This conclusion is true for Dry, Canning, and Wet Seasons during 1985 and 1995.

Nearest Deep-Water discharge, 1985, Dry Season results (Figure 24 and Figures 25-34) show that strict compliance with Level B Objectives are not maintained on the main bay transect. A minimum dissolved oxygen concentration of 5.0 mg/l is maintained more than 90% of the time downstream of MP 1.0 in the main bay transect, all of Mayfield, and portions of Guadalupe and Mud Sloughs. Removal of San Jose/Santa Clara, Sunnyvale, and Palo Alto discharges from their present locations eliminates the dry season advective flow (effluent flow) from Artesian, Guadalupe, and Mayfield Sloughs and allows the natural background effects of the marsh loads to become the dominant water quality factor. This effect is most dramatic in Artesian Slough. There are no significant differences under the Nearest Deepwater discharge alternative, between Dry and Canning Season results.

The Wet Season results show that Level B is achieved over the entire main bay transect. Level B is also achieved in Mayfield Slough, and portions of Guadalupe and Mud Sloughs and Coyote Creek. A minimum dissolved oxygen concentration

No Project - 1985 - Dry

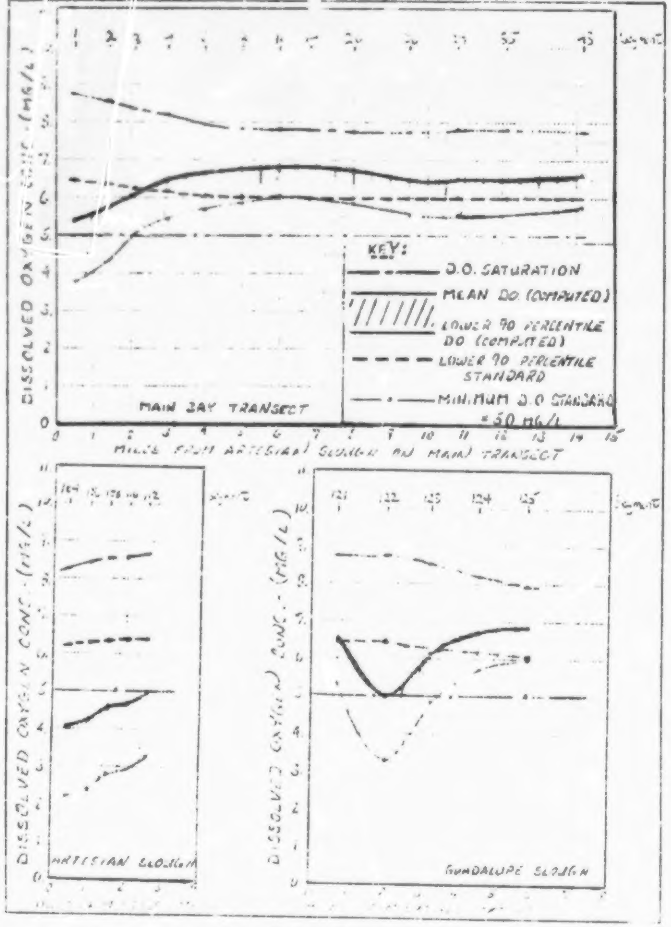


Figure 22 Water Quality Model Results

Upgrade SJ-SC - 1985 - Dry

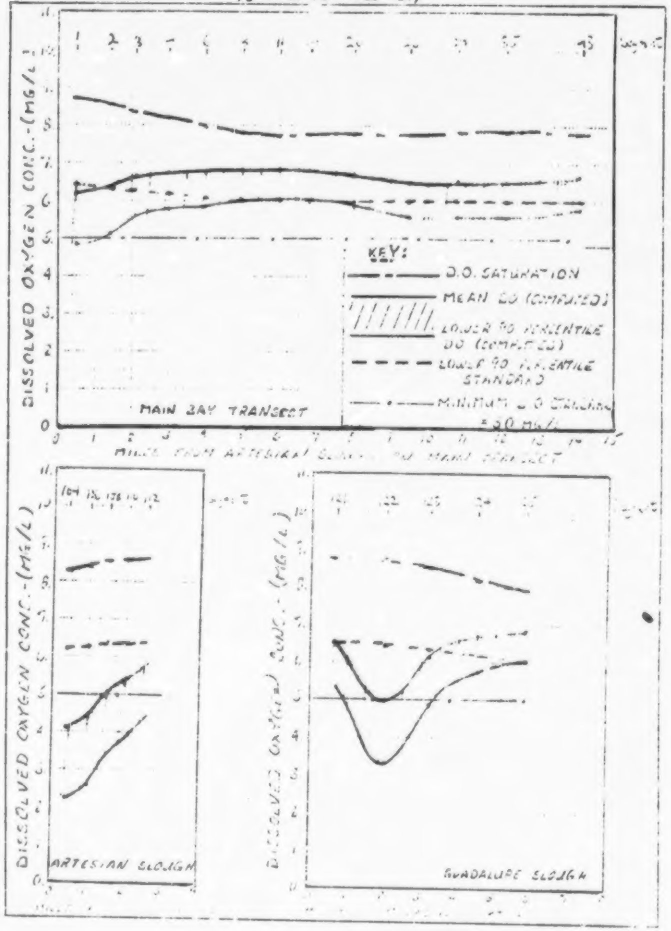


Figure 23 Water Quality Model Results

Deep Water Discharge - 1985 - Dry Season

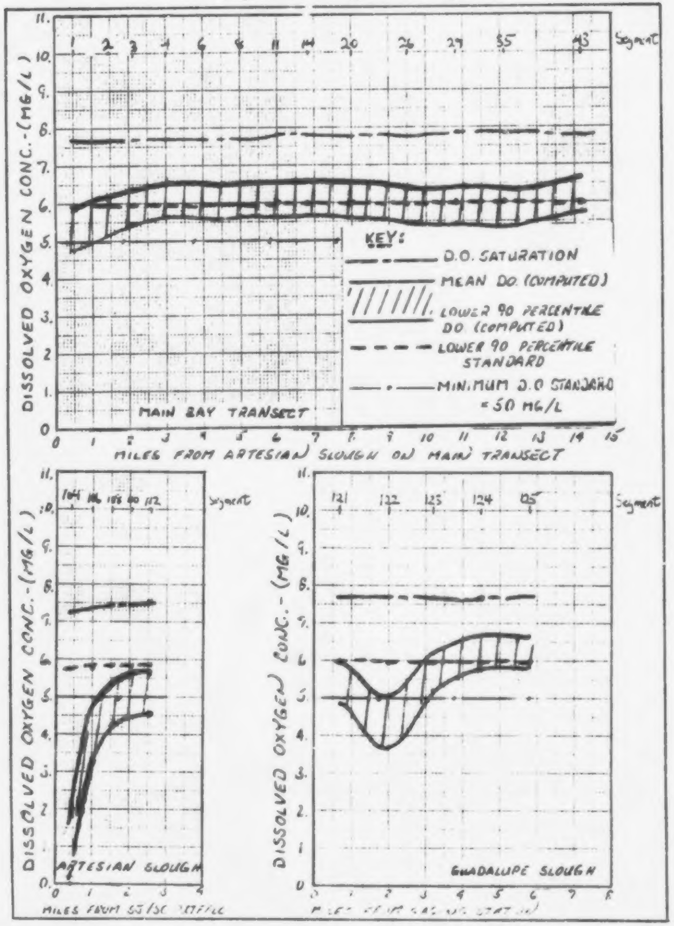


Figure 24 Water Quality Model Results

Deep Water Discharge - 1985 - Dry Season

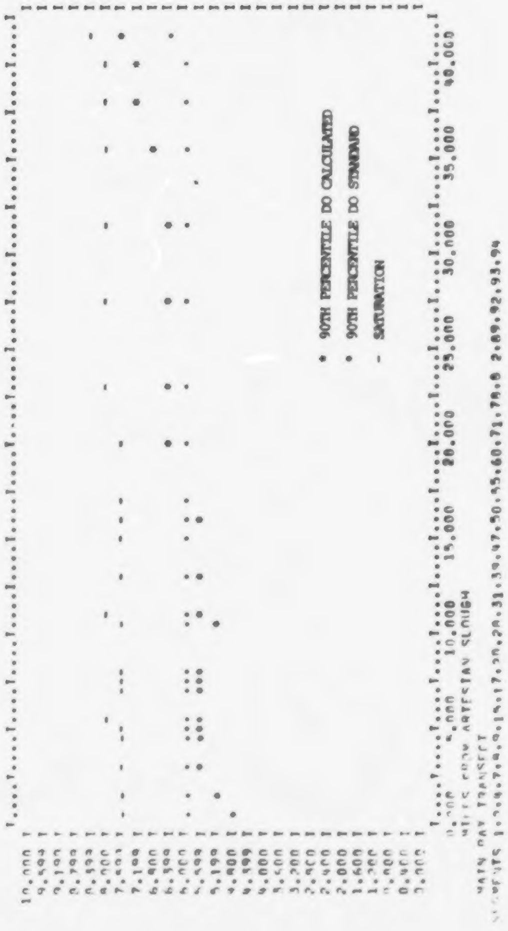


Figure 25 Water Quality Modelling Results

Deep Water Discharge - 1985 - Dry Season

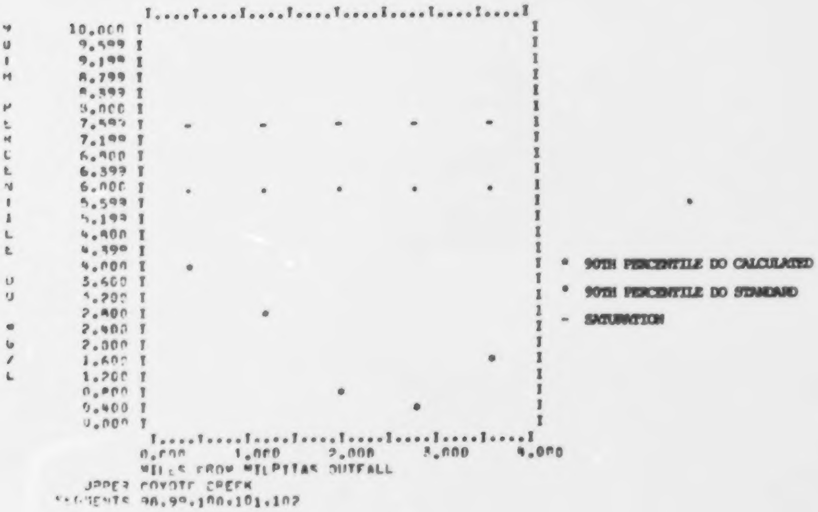


Figure 26 Water Quality Modeling Results

Deep Water Discharge - 1985 - Dry Season

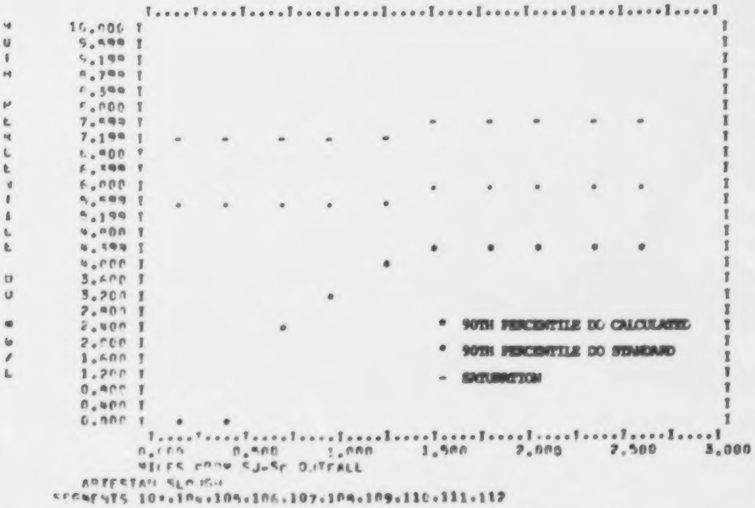


Figure 27 Water Quality Modeling Results

Deep Water Discharge - 1985 - Dry Season

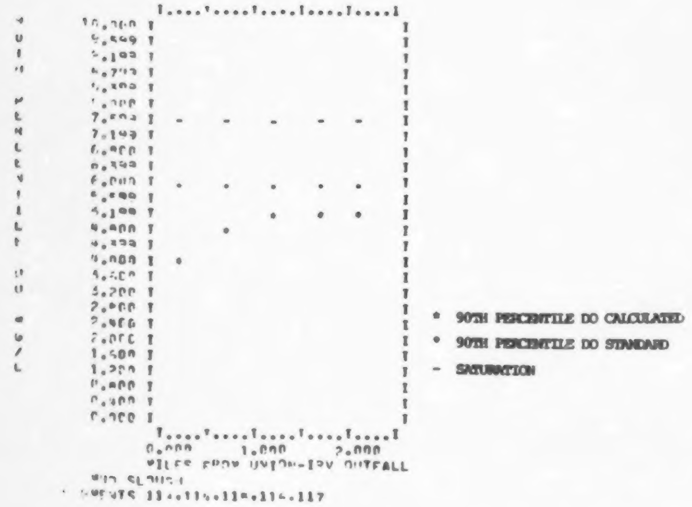


Figure 28 Water Quality Modeling Results

Deep Water Discharge - 1985 - Dry Season

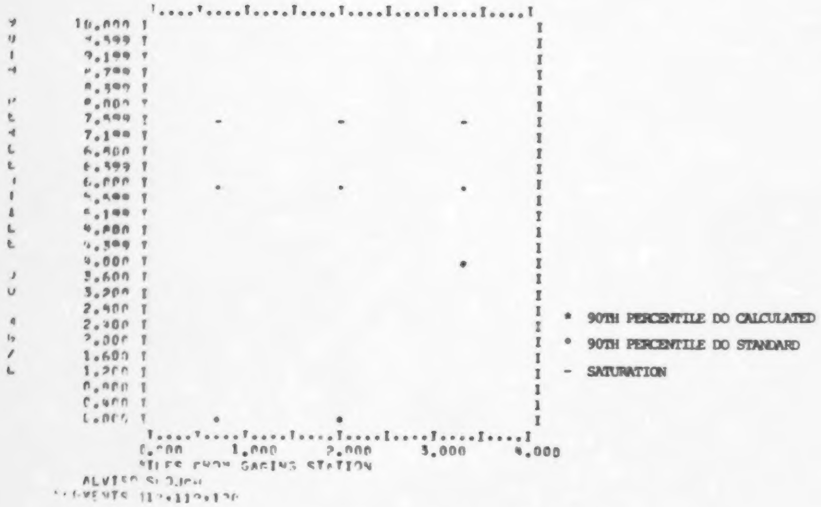


Figure 29 Water Quality Modeling Results

Deep Water Discharge - 1985 - Dry Season

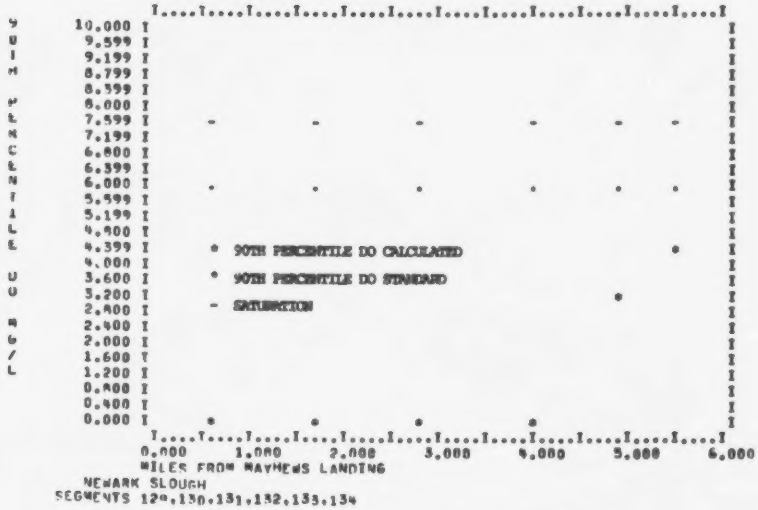


Figure 32 Water Quality Modeling Results

Deep Water Discharge - 1985 - Dry Season

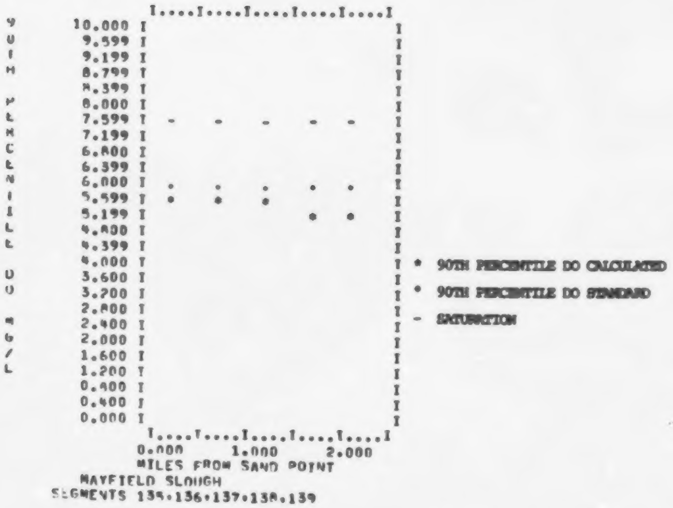


Figure 33 Water Quality Modeling Results

Deep Water Discharge - 1985 - Dry Season

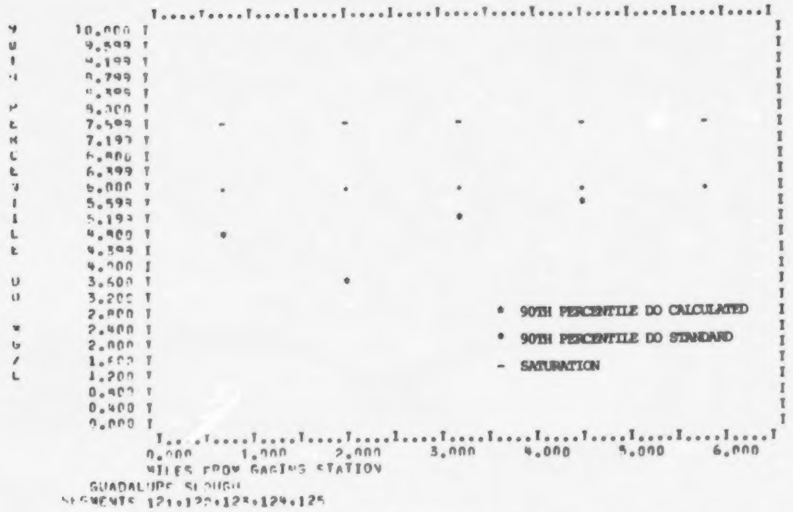


Figure 30 Water Quality Modeling Results

Deep Water Discharge - 1985 - Dry Season

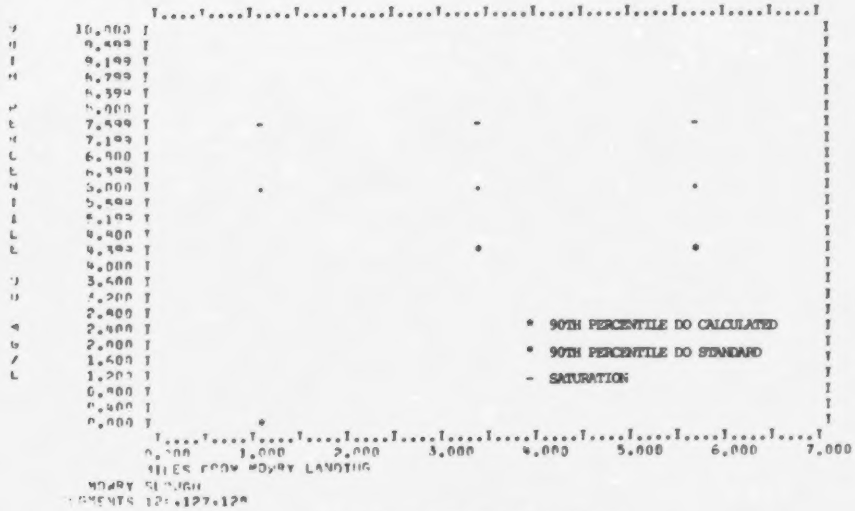


Figure 31 Water Quality Modeling Results

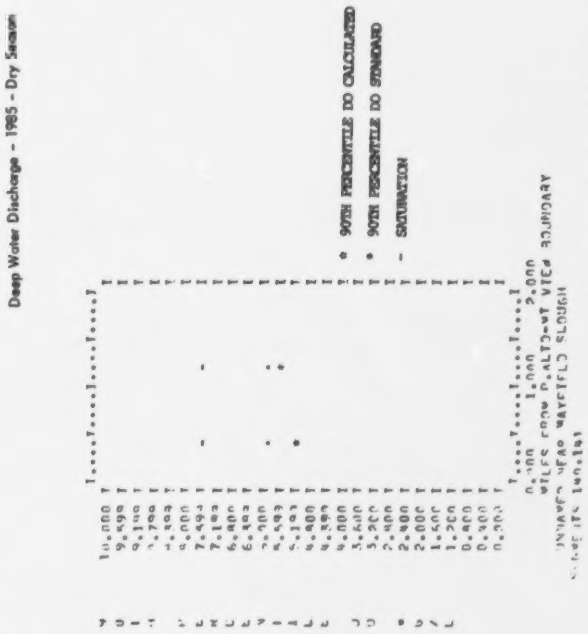


Figure 34 Water Quality Modeling Results

of 5.0 mg/l is achieved greater than 90% of the time in Artesian, Mud, Guadalupe, and Mowry Sloughs, Coyote Creek, and in portions of Newark and Alviso Sloughs. Results for 1995 are essentially the same as 1985 for all seasons.

The Disposal Point 31 alternative, 1985, Dry Season results (Figure 35 and Figures 36-45) show only minor differences when compared to those of Nearest Deep-Water discharge, 1985, Dry Season. These differences are in the vicinity of Disposal Point 31 where calculated dissolved oxygen concentrations are 0.1-0.4 mg/l less than those calculated for the Nearest Deep-Water Discharge Alternative. Comparisons of computed concentrations with dissolved oxygen objectives are essentially the same for the Nearest Deep-Water Discharge alternative and the Disposal Point 31 Alternative in all of the sloughs for the seasonal conditions investigated.

B. Relative Toxicity Concentration Projections

Projected toxicity concentrations on the main bay transect for the various discharge alternatives are presented in Figures 46 through 51 for 1995.

No Project, Dry Season and Wet Season results show that approximately 400 ml/l of relative toxicity will result in the southern most sloughs. This result assumes 95% survival of test oganisms in the prescribed bioassay test such that the toxic concentration of the waste is 0.4 toxic units. The toxicity decreases rapidly in the main bay transect to approximately 70 ml/l at Dumbarton Bridge. During the Dry Season, sloughs which are not subject to effluent discharge will have relative toxicity levels throughout their length equal to those on the main bay transect near the mouths of the sloughs. The urban and other runoff flow during the wet season is sufficient to reduce toxicity concentrations to nearly zero at the upstream sections in Coyote Creek and Newark Slough. Upstream concentrations are reduced in all the other sloughs by approximately 50% under wet weather conditions.

Under the Nearest Deep Water discharge alternative, Dry and West Season concentrations in the main bay transect in the

DP 31 - 1985 - Dry

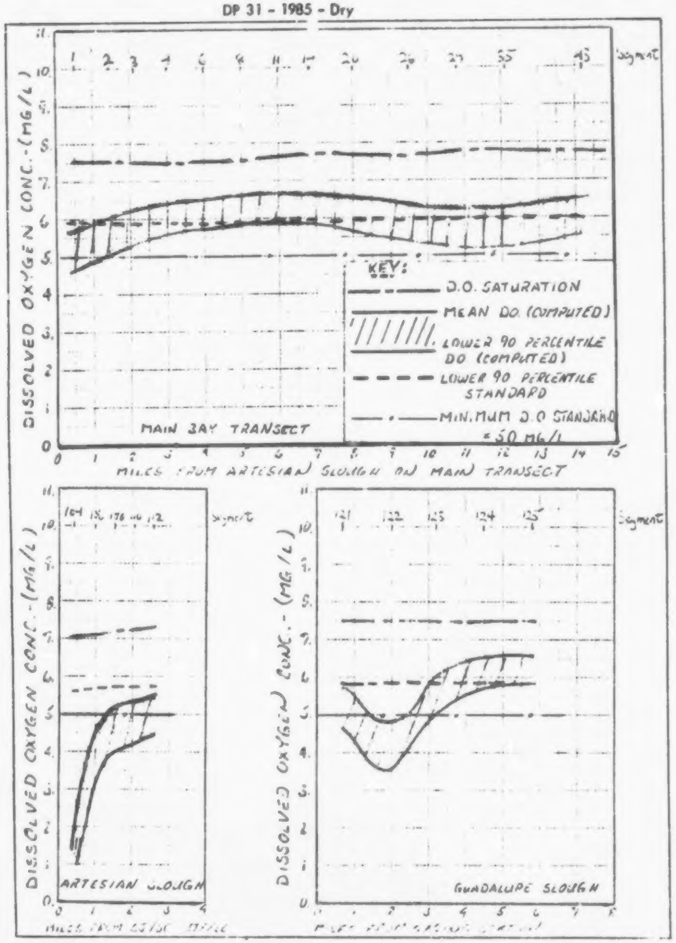


Figure 35 Water Quality Model Results

DP 31 Discharge - 1985 Dry Season

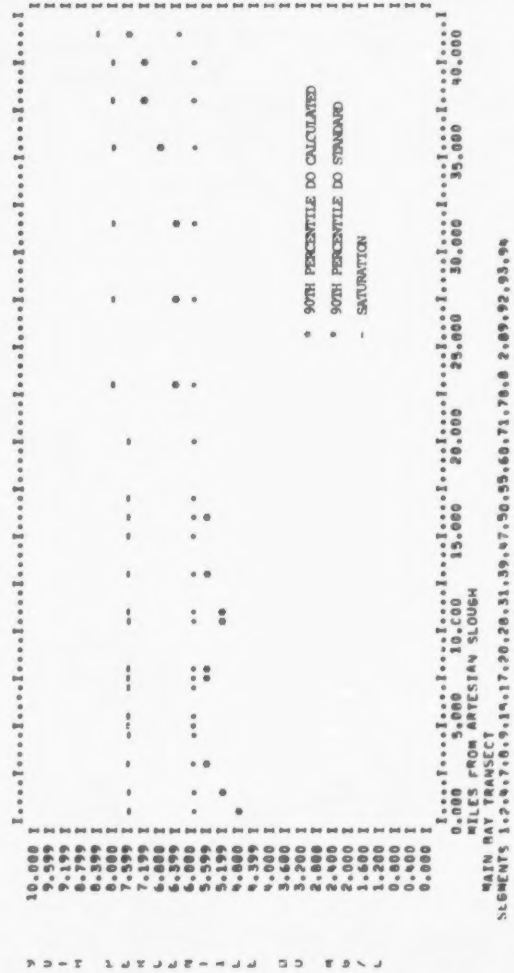


Figure 36 Water Quality Modeling Results

DP 31 Discharge - 1985 - Dry Season

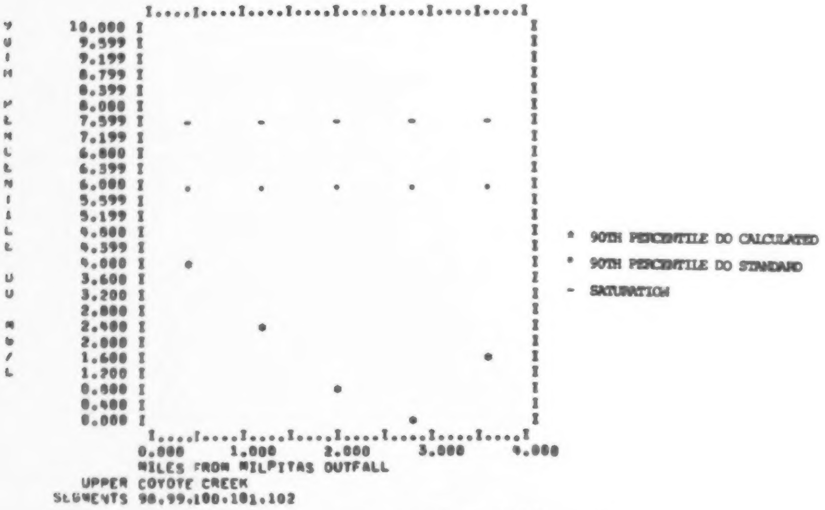


Figure 37 Water Quality Modeling Results

DP 31 Discharge - 1985 - Dry Season

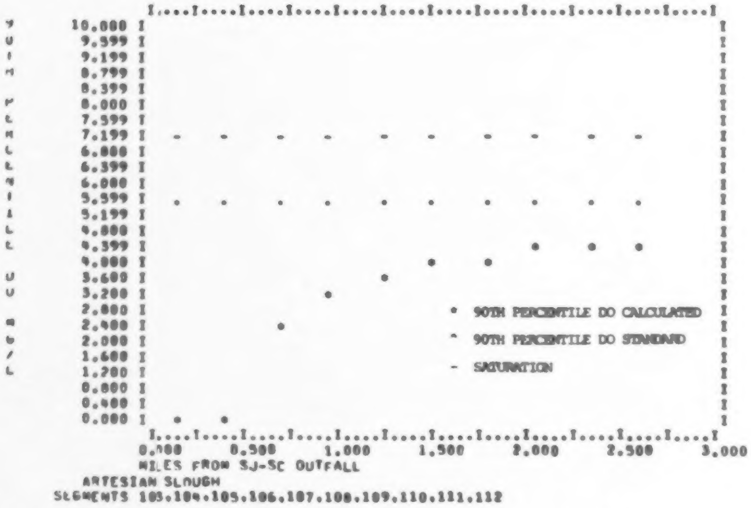


Figure 38 Water Quality Modeling Results

DP 31 Discharge - 1985 - Dry Season

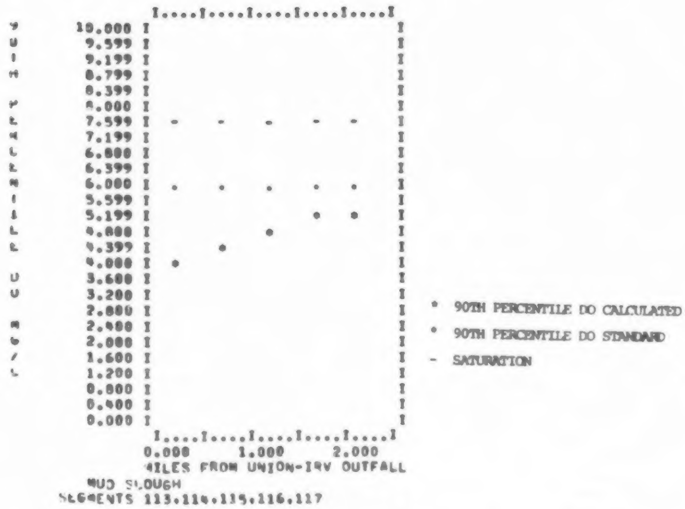


Figure 39 Water Quality Modeling Results

DP 31 Discharge - 1985 - Dry Season

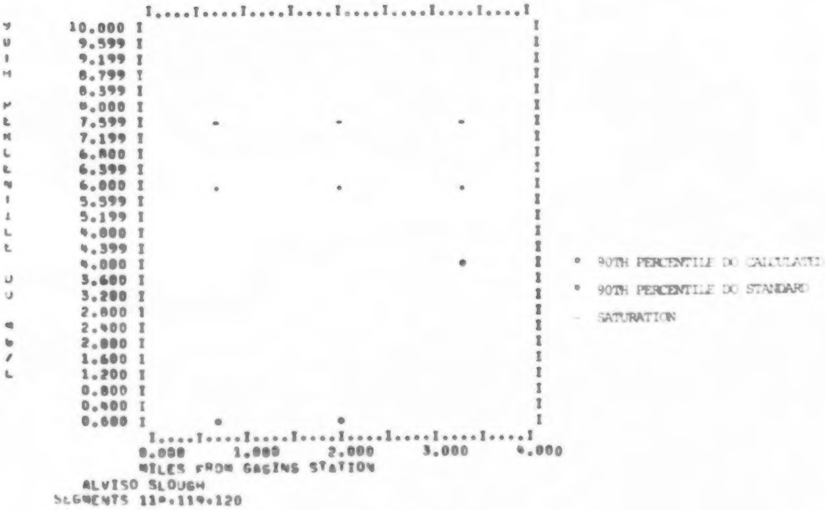


Figure 40 Water Quality Modeling Results

DP 31 Discharge - 1985 - Dry Season

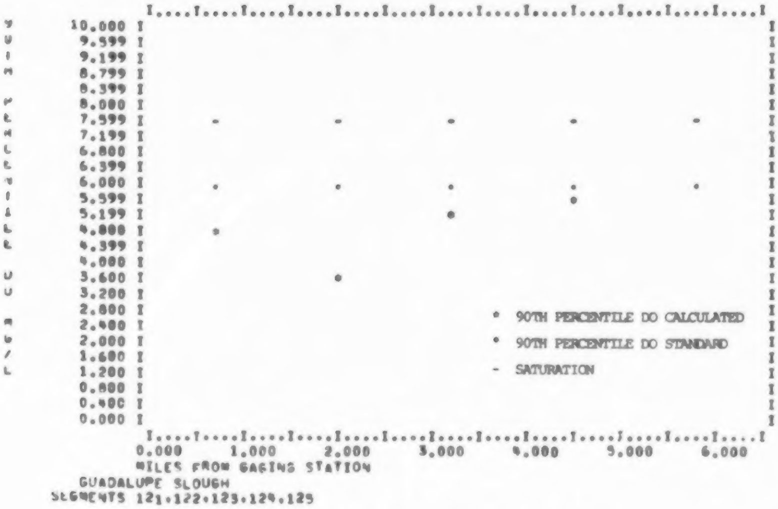
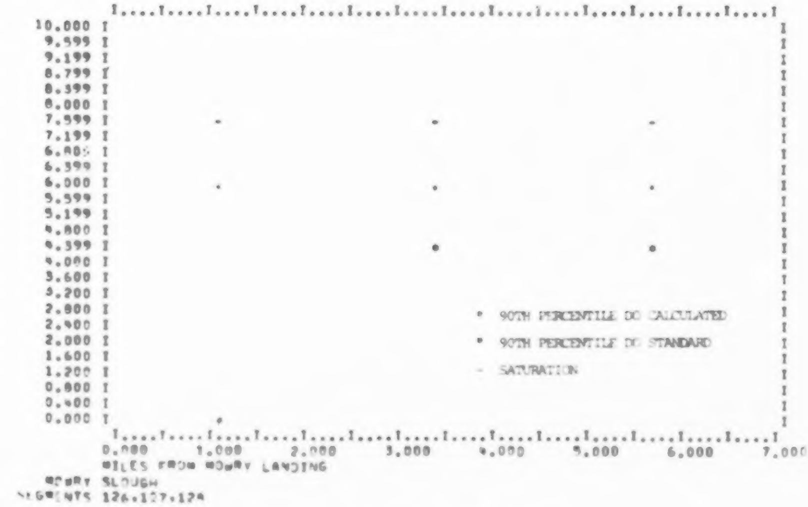


Figure 41 Water Quality Modeling Results

DP 31 Discharge - 1985 - Dry Season



ure 42 Water Quality Modeling Results

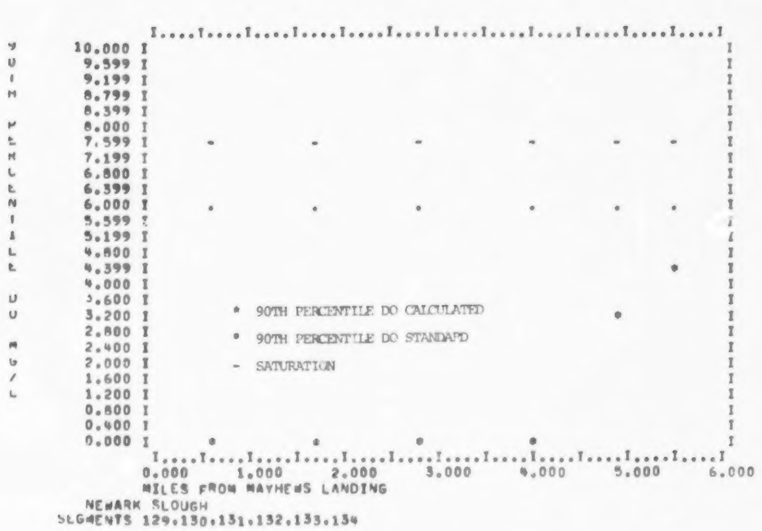


Figure 43 Water Quality Modeling Results

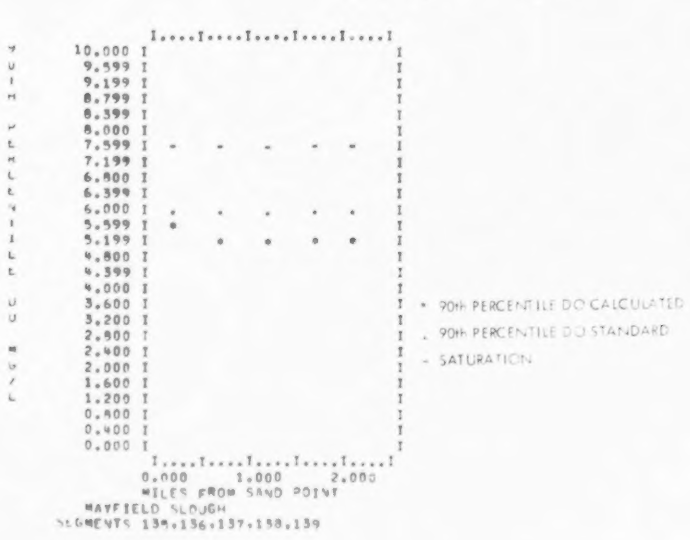


Figure 44 Water Quality Modeling Results

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DP 31 Discharge - 1985 - Dry Season

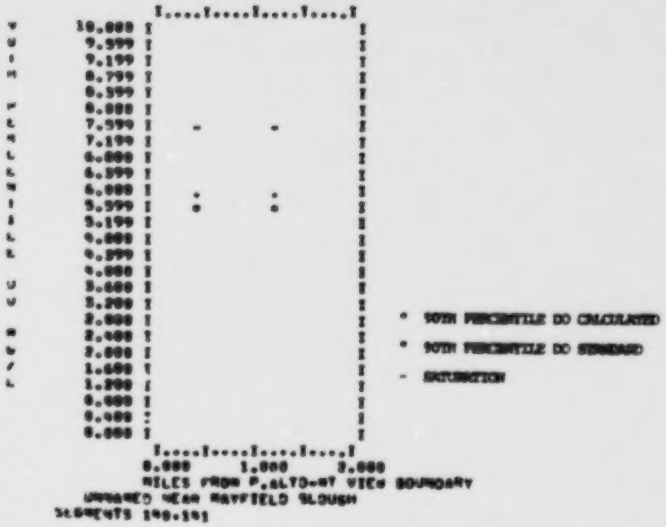

Figure 45 Water Quality Modeling Results

TABLE 21

RELATIVE TOXICITY CALCULATED (MG/L)
1995

SEGMENT	NO PROJECT DRY SEASON	NO PROJECT WET SEASON	DEEP WATER DISCHARGE DRY SEASON	DEEP WATER DISCHARGE WET SEASON	DP 31 DISCHARGE DRY SEASON	DP 31 DISCHARGE WET SEASON
1	415.26	382.07	125.10	89.93	52.65	34.43
2	370.95	345.58	124.20	96.78	52.27	37.02
3	319.15	295.52	123.57	101.29	52.01	38.77
4	278.57	259.49	122.85	104.57	51.70	40.03
5	232.53	217.39	122.04	107.50	51.36	41.15
6	190.47	178.14	121.24	109.75	51.03	42.01
7	157.35	147.66	120.57	111.80	50.79	42.03
8	144.49	135.67	120.20	112.67	50.62	43.15
9	114.86	107.37	124.35	117.06	50.51	43.90
10	116.12	109.17	117.02	111.01	50.53	45.03
11	101.58	95.53	100.03	103.55	50.17	44.19
12	100.59	94.50	105.14	100.50	50.16	44.20
13	89.19	70.90	88.95	84.61	50.01	44.50
14	87.57	82.21	93.40	89.00	50.02	44.51
15	89.64	84.04	93.43	89.44	50.05	44.43
16	82.90	77.69	87.25	82.91	50.01	44.61
17	85.96	78.79	89.51	84.29	49.96	44.60
18	84.84	79.59	84.60	84.30	49.96	44.50
19	80.99	76.07	84.90	90.03	49.93	44.66
20	81.12	76.14	94.84	80.76	49.49	44.69
21	84.44	79.22	89.13	83.07	49.96	44.59
22	79.46	74.50	82.90	70.95	49.92	44.69
23	75.76	71.11	79.29	74.59	49.79	44.94
24	80.01	75.08	82.61	78.55	49.47	44.72
25	70.92	66.45	72.56	68.03	49.70	44.99
26	69.62	65.52	71.12	67.42	49.59	45.03
27	75.43	70.94	74.56	70.62	49.76	44.87
28	65.16	61.08	66.50	62.95	49.61	45.16
29	59.60	54.92	59.73	56.30	49.51	45.35
30	46.24	42.94	47.08	43.97	47.41	44.23
31	47.62	44.25	49.45	45.30	49.94	45.67
32	38.94	35.65	39.99	36.91	40.17	36.73
33	37.98	34.77	39.57	35.59	39.19	35.74
34	37.29	34.10	37.02	34.06	38.41	35.04
35	34.45	31.71	35.41	32.94	39.99	32.62
36	32.97	29.99	35.40	30.57	34.02	30.74

TABLE 21

RELATIVE TOXICITY CALCULATED (ML/L)
1995

SEGMENT	NO PROJECT		DEEP WATER DISCHARGE		OP 31 DISCHARGE	
	DRY SEASON	WET SEASON	DRY SEASON	WET SEASON	DRY SEASON	WET SEASON
37	37.93	34.54	38.41	35.31	39.02	35.50
38	35.96	32.03	36.90	33.93	37.05	33.70
39	25.63	22.70	25.99	23.15	26.35	23.26
40	29.21	26.22	29.64	26.70	30.10	26.92
41	37.25	33.94	37.02	34.69	38.41	34.87
42	34.08	30.99	34.57	31.61	35.06	31.76
43	22.73	19.90	23.03	20.26	23.33	20.35
44	25.68	22.79	26.04	23.25	26.42	23.36
45	32.94	29.38	33.08	29.97	33.46	30.10
46	28.49	25.31	28.85	25.79	29.21	25.84
47	21.00	18.23	21.27	18.56	21.53	18.63
48	23.02	20.21	23.33	20.60	23.64	20.69
49	32.51	29.18	32.96	29.75	33.42	29.89
50	27.99	24.81	28.35	25.24	28.69	25.34
51	20.43	17.72	20.69	18.03	20.95	18.13
52	21.19	18.47	21.45	18.80	21.73	18.88
53	32.37	28.94	32.92	29.51	33.28	29.65
54	29.63	26.19	30.03	26.69	30.43	26.80
55	19.86	17.21	20.11	17.51	20.36	17.57
56	19.86	17.24	20.11	17.55	20.36	17.61
57	37.13	32.47	37.68	33.13	38.24	33.29
58	39.02	33.93	39.42	34.65	40.24	34.83
59	19.10	16.54	19.39	16.82	19.67	16.89
60	19.12	15.69	19.34	15.96	19.56	16.02
61	36.94	32.09	37.38	32.75	37.93	32.90
62	19.99	17.38	20.28	17.74	20.59	17.82
63	18.84	16.33	19.07	16.61	19.30	16.67
64	15.88	13.72	16.06	13.94	16.23	13.99
65	34.94	30.67	35.40	31.24	35.85	31.37
66	25.59	22.34	25.94	22.77	26.28	22.86
67	17.64	15.34	17.85	15.59	18.06	15.64
68	14.76	12.78	14.92	12.97	15.07	13.03
69	31.19	27.58	31.56	28.03	31.91	28.13
70	25.05	22.08	25.35	22.46	25.65	22.54
71	12.37	10.85	12.48	10.99	12.59	11.03
72	11.33	9.94	11.43	10.06	11.52	10.08

TABLE 21

RELATIVE TOXICITY CALCULATED (ML/L)
1995

SEGMENT	NO PROJECT		DEEP WATER DISCHARGE		OP 31 DISCHARGE	
	DRY SEASON	WET SEASON	DRY SEASON	WET SEASON	DRY SEASON	WET SEASON
73	26.10	23.11	26.36	23.44	26.61	23.51
74	16.88	15.45	17.03	15.64	17.17	15.69
75	9.74	8.73	9.82	8.82	9.90	8.93
76	12.90	12.05	12.94	12.12	12.96	12.12
77	9.86	9.45	9.90	9.50	9.92	9.50
78	5.75	5.51	5.77	5.54	5.78	5.53
79	5.75	5.51	5.77	5.54	5.78	5.53
80	9.62	9.38	9.64	9.42	9.64	9.41
81	7.14	6.97	7.16	7.00	7.16	6.99
82	4.64	4.52	4.66	4.54	4.66	4.53
83	4.95	4.86	4.96	4.88	4.96	4.87
84	3.90	3.81	3.91	3.82	3.90	3.82
85	3.54	3.49	3.55	3.49	3.55	3.49
86	3.32	3.26	3.32	3.27	3.32	3.26
87	1.78	1.68	1.78	1.69	1.78	1.69
88	2.80	2.74	2.80	2.75	2.80	2.75
89	2.11	2.09	2.12	2.09	2.12	2.09
90	1.48	1.42	1.48	1.42	1.48	1.42
91	1.48	1.44	1.48	1.45	1.48	1.44
92	1.14	1.13	1.14	1.13	1.14	1.13
93	0.53	0.56	0.53	0.56	0.53	0.56
94	0.18	0.19	0.18	0.19	0.18	0.19
95	0.63	0.56	0.63	0.56	0.63	0.56
96	0.35	0.34	0.35	0.34	0.35	0.34
97	0.53	0.56	0.53	0.56	0.53	0.56
98	416.76	0.70	125.56	0.16	52.84	0.06
99	416.76	17.10	125.56	4.04	52.84	1.54
100	416.76	125.85	125.56	29.62	52.84	11.34
101	416.76	232.93	125.56	54.82	52.84	20.98
102	416.76	324.65	125.56	76.91	52.84	29.25
103	445.19	425.14	125.31	0.62	52.74	0.23
104	445.18	425.14	125.31	4.01	52.74	1.53
105	445.26	425.21	125.31	27.66	52.74	10.59
106	447.06	426.96	125.31	48.44	52.74	18.54
107	445.14	425.14	125.31	58.01	52.74	22.51
108	445.14	425.15	125.31	65.10	52.74	24.92

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TABLE 21

RELATIVE TOXICITY CALCULATED (ML/L)
1995

SEGMENT	NO PROJECT DRY SEASON	NO PROJECT WET SEASON	DEEP WATER DISCHARGE DRY SEASON	DEEP WATER DISCHARGE WET SEASON	DP 31 DISCHARGE DRY SEASON	DP 31 DISCHARGE WET SEASON
109	445.27	420.19	125.31	71.25	52.74	27.20
110	446.90	426.19	125.31	77.29	52.74	29.59
111	440.21	418.40	125.31	85.21	52.74	31.06
112	430.03	403.25	125.31	87.31	52.74	33.48
113	319.14	184.29	123.97	63.16	52.01	24.10
114	319.14	295.03	123.97	83.90	52.01	32.15
115	319.15	272.40	123.97	93.39	52.01	35.75
116	319.15	202.45	123.97	96.01	52.01	37.06
117	319.15	209.27	123.97	99.11	52.01	37.94
118	190.47	99.07	121.24	61.04	51.03	25.36
119	190.47	147.48	121.24	90.01	51.03	34.76
120	190.47	169.37	121.24	164.35	51.03	39.95
121	379.32	128.14	121.19	82.80	51.01	8.96
122	379.32	310.89	121.19	94.29	51.01	39.78
123	352.32	290.09	121.19	74.64	51.01	38.97
124	276.18	293.75	121.19	94.12	51.01	36.03
125	203.99	187.39	121.19	185.04	51.01	40.52
126	82.90	35.60	67.25	35.08	50.01	19.31
127	82.90	60.16	67.25	72.70	50.01	39.16
128	82.90	73.54	67.25	80.66	50.01	45.40
129	79.75	4.37	83.28	4.00	50.00	2.62
130	79.75	26.29	83.28	27.03	50.00	15.73
131	79.74	46.37	83.28	49.09	50.00	27.79
132	79.74	64.59	83.28	68.37	50.00	38.70
133	79.75	71.73	83.28	75.96	50.00	43.00
134	79.75	73.49	83.28	77.00	50.00	44.04
135	146.96	130.09	74.62	67.96	49.79	42.06
136	124.02	110.14	74.62	68.31	49.79	43.52
137	104.07	99.19	74.62	69.39	49.79	44.09
138	90.60	85.95	74.62	78.08	49.79	44.47
139	80.90	76.10	74.62	78.41	49.79	44.73
140	90.12	78.36	94.93	83.39	50.32	41.43
141	90.12	82.61	94.93	87.91	50.32	43.60

No Project - 1995 - Dry Season

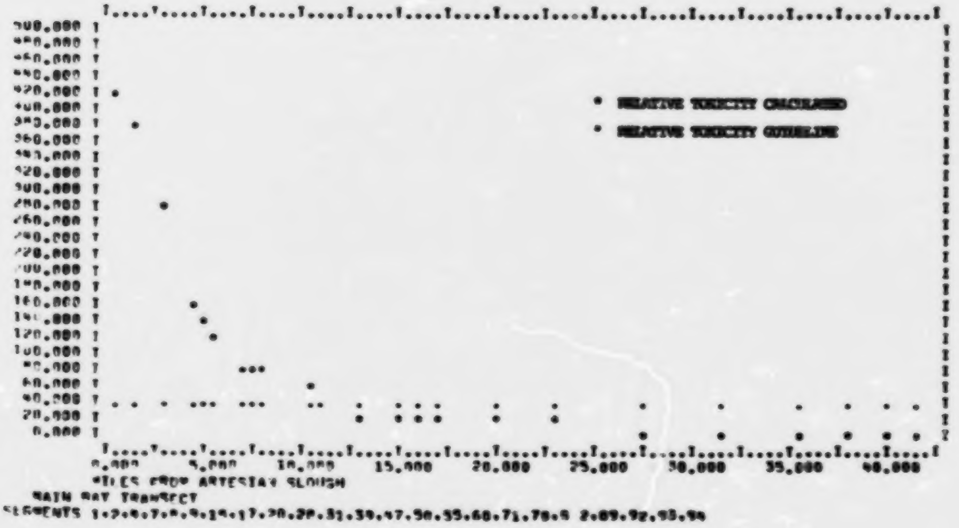

Figure 46 Water Quality Modeling Results

No Project - 1995 - Wet Season

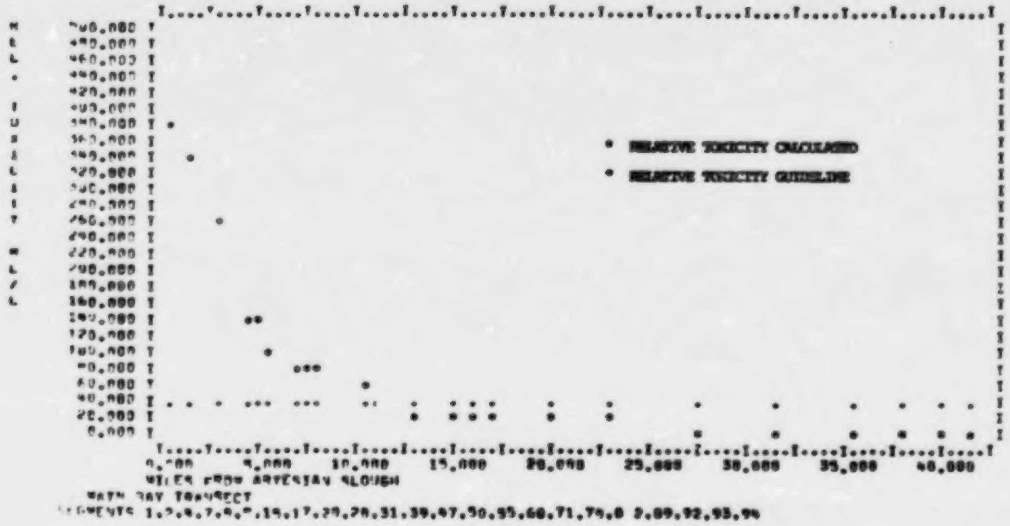

Figure 47 Water Quality Modeling Results

Deep Water Discharge - 1995 - Dry Season

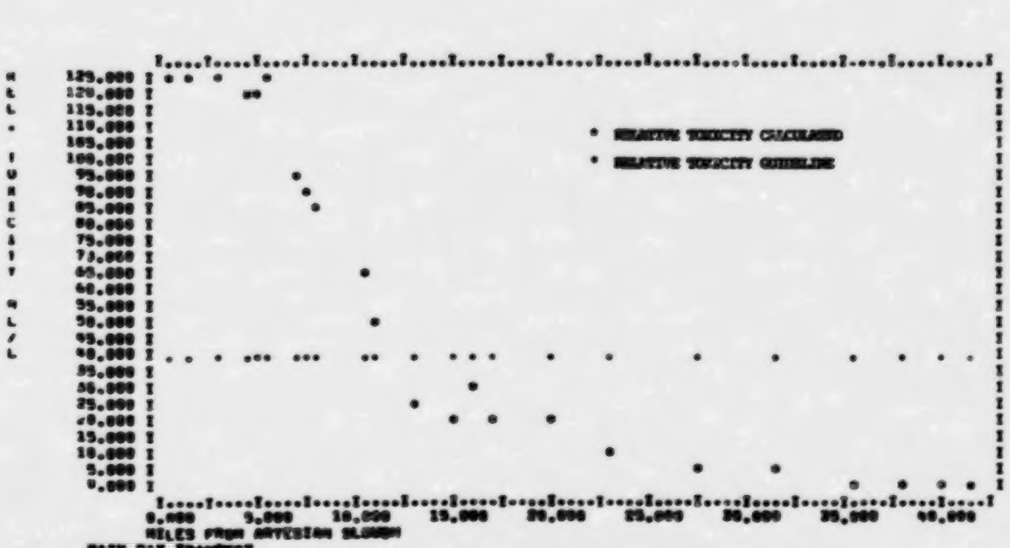

Figure 48 Water Quality Modeling Results

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Deep Water Discharge - 1995 - Wet Season

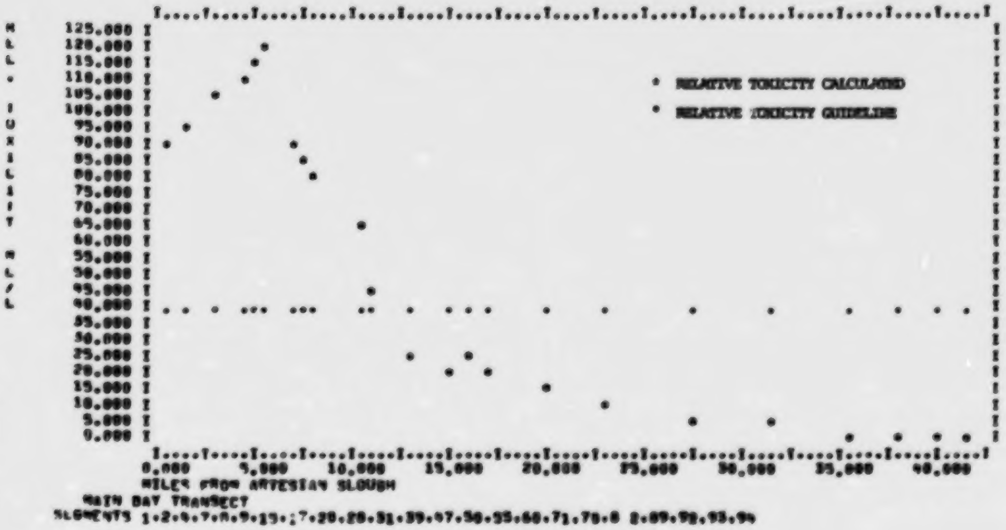

Figure 49 Water Quality Modeling Results

DP 31 Discharge - 1995 - Dry Season

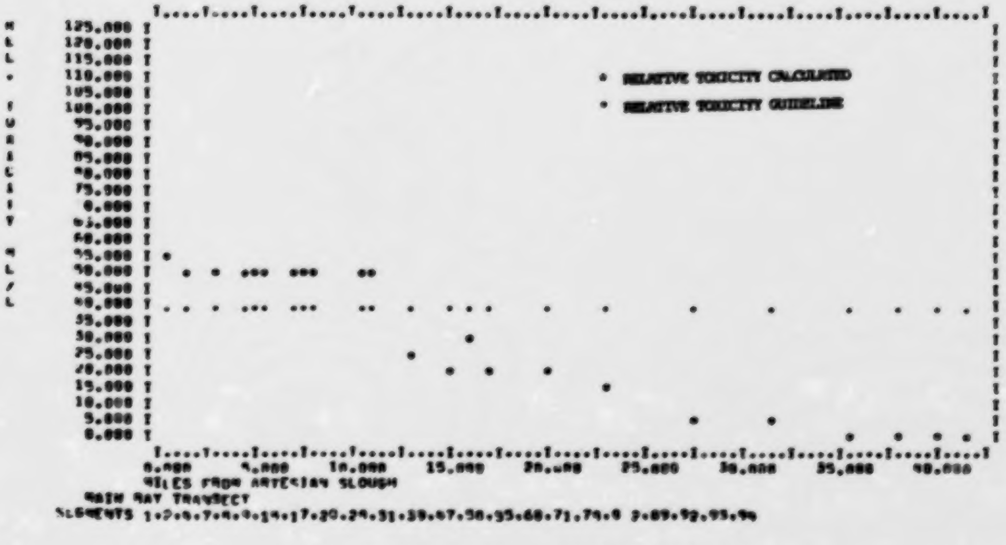

Figure 50 Water Quality Modeling Results

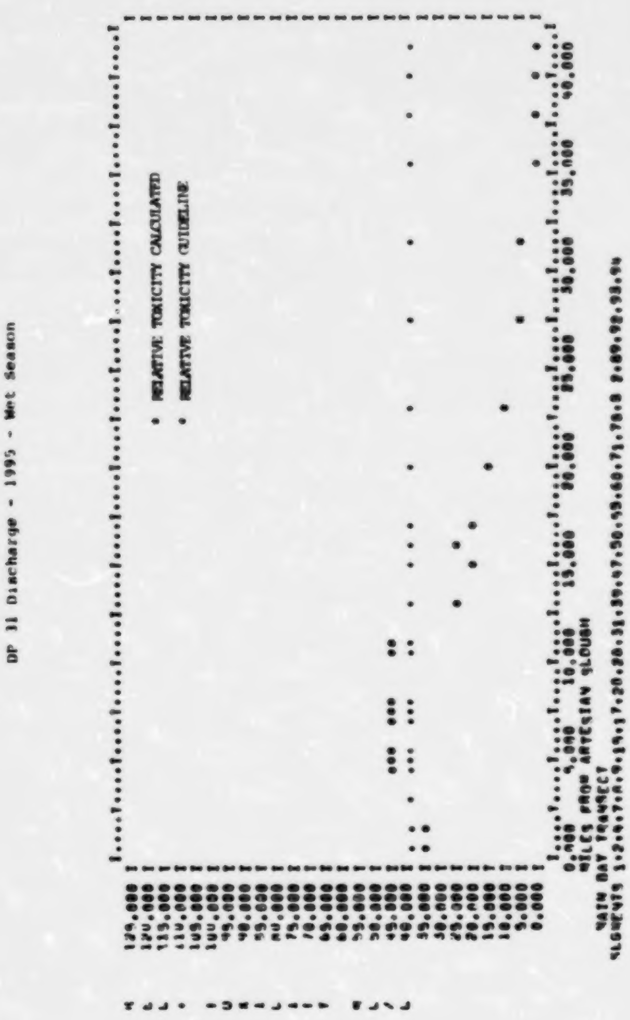

Figure 51 Water Quality Modeling Results

vicinity of the disposal sites are approximately 125 ml/l. Concentrations downstream of segment 14 in the main bay transect are similar to those of the No Project cases as are levels in Newark and Mowry Sloughs. Upstream of the disposal sites in the main bay transect, concentrations are approximately 125 ml/l. During the Dry Season a relative toxicity concentration of 125 ml/l is calculated throughout Guadalupe, Alviso, Artesian, and Mud Sloughs, and Coyote Creek. Wet Season concentrations are reduced in Coyote Creek, Newark, Mud, Mowry and Alviso Sloughs similar to Wet Season reductions for the No Project, Wet Season alternative. The effects of urban runoff flow and tidal dispersion reduce upstream concentrations and are responsible for the shape of the toxicity profiles in Artesian, Guadalupe, and Mayfield Sloughs.

The Disposal Point 31 Alternative, Dry Season, toxicity concentrations are approximately 50 ml/l in the main bay transect south of Dumbarton Bridge and in all the sloughs. During the Wet Season the main bay transect concentrations are approximately 45 ml/l. Concentrations in the sloughs are lower than Dry Season concentrations due to wet weather influences described above.

C. Chloride Concentration Projections

Projected chloride concentrations in the main bay transect for three cases representing No Project, Nearest Deep Water Discharge, and Disposal Point 31 management alternatives and of Dry and West Seasons are presented in Figures 52 and 53 and on Table 22.

No Project, Dry Season chloride concentrations are approximately 2,000 mg/l at the juncture of Coyote Creek and Artesian Slough, and increase to 14,000 mg/l at milepoint 6.0. Chlorides continue to increase to 16,000 mg/l at milepoint 14.0. Wet Season chlorides vary from 1,000 in Coyote Creek increasing to 10,000 mg/l at mile 6.0, and 12,000 mg/l at milepoint 14.0.

Nearest Deep Water, Dry Season chlorides are approximately 14,000 mg/l between milepoint 0.1 and 6.0 and increase to 16,000 mg/l at milepoint 14.0. Wet Season values are 8,000 mg/l at milepoint 0.0 increasing to 10,000 at milepoint 6.0 and 12,000 at milepoint 14.0.

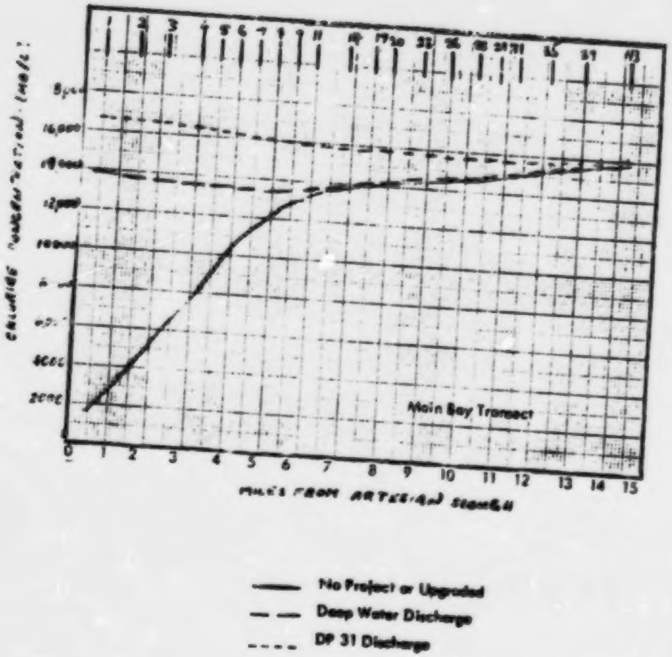

Figure 52 Computer Chloride Concentration – Dry Season

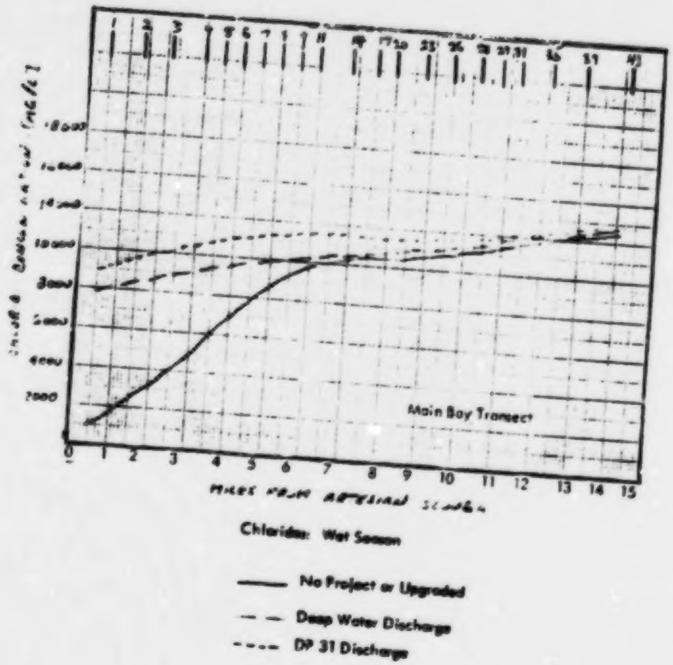

Figure 53 Computed Chloride Concentration – Wet Season

TABLE 22
CHLORIDE CONCENTRATIONS (mg/l)

- 1985 and 1995 -

Segment	No Project		Deep Water Discharge		DP 31 Disposal	
	Dry and Canning Seasons	Wet Season	Dry and Canning Seasons	Wet Season	Dry and Canning Seasons	Wet Season
1	1779.01	453.36	13962.19	7889.75	16747.99	9809.60
2	3742.40	2164.76	13762.35	9396.82	16627.39	9698.09
3	5825.46	3980.04	13691.70	8795.19	16542.01	10147.73
4	7304.67	4711.32	13612.32	9074.86	16446.10	10476.17
5	9079.67	5890.17	13522.45	9534.29	16397.46	10769.72
6	10571.69	7178.01	13434.09	9529.98	16238.75	10999.52
7	11702.57	8144.44	13359.45	9714.05	16140.59	11208.82
8	12173.48	8529.52	13327.57	9793.46	16102.08	11287.98
9	13119.41	9436.05	13093.66	9856.92	16002.57	11498.16
10	13047.07	9974.35	13335.00	9996.09	16008.41	11471.15
11	13509.54	9810.93	13586.26	10251.29	15957.64	11563.97
12	13579.34	9839.35	13670.15	10313.20	15955.95	11546.47
13	14047.04	10335.17	14166.10	10727.76	15907.45	11667.09
14	13944.71	10232.66	14029.17	10620.69	15911.67	11649.40
15	13990.40	10164.46	14012.61	10593.42	15920.87	11629.46
16	14009.45	10374.24	14219.20	10760.57	15905.82	11674.93
17	14047.67	10343.42	14162.30	10739.60	15891.26	11673.30
18	14016.34	10319.59	14156.36	10732.33	15892.29	11666.08
19	14107.40	10426.94	14235.54	10822.35	15851.20	11697.35
20	14122.46	10431.49	14255.06	10831.02	15869.35	11693.99
21	14027.44	10320.03	14160.77	10744.29	15899.02	11669.16
22	14144.27	10474.34	14291.90	10869.25	15867.43	11696.76
23	14274.20	10603.25	14431.75	11000.40	15838.04	11736.19
24	14149.34	10466.90	14317.26	10885.63	15862.01	11703.95
25	14412.01	10761.29	14593.31	11199.49	15809.53	11773.65
26	14448.40	10801.20	14623.44	11188.41	15804.27	11784.39
27	14284.30	10602.37	14537.43	11001.32	15826.00	11742.55
28	14501.41	10940.64	14706.73	11313.90	15791.48	11814.98
29	14777.00	11164.15	14927.13	11497.60	15749.34	11869.95
30	15146.40	11477.93	15277.92	11845.22	15735.00	11948.63
31	15101.46	11432.07	15224.91	11805.74	15692.65	11952.40
32	15304.74	11420.37	15492.91	12054.69	15890.35	12175.47
33	15445.66	11859.66	15557.10	12090.97	15937.52	12199.37
34	15447.44	11882.84	15557.10	12180.37	15930.81	12216.71
35	15530.40	11864.94	15624.17	12169.06	15975.64	12276.40
36	15542.64	12020.59	15671.79	12221.49	16005.14	12324.65

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TABLE 22
CHLORIDE CONCENTRATIONS (mg/l)
(Continued)

- 1985 and 1995 -

Segment	No Project		Deep Water Discharge		DP 31 Disposal	
	Dry and Canning Seasons	Wet Season	Dry and Canning Seasons	Wet Season	Dry and Canring Seasons	Wet Season
37	15498,09	11867.72	15599,22	12087,75	15978,35	12205.45
38	15511,91	11926.84	15608,73	12137,47	15971,14	12249.99
39	15827,54	12274.42	15899,25	12427,96	16167,32	12509.16
40	15702,08	12155.95	15782,26	12328,21	16092,57	12420.14
41	15570,02	11888.55	15629,93	12105,31	16003,92	12221.13
42	15580,24	11992.32	15674,36	12193,09	16020,07	12299.29
43	15905,07	12371.91	15969,84	12508,60	16211,65	12581.19
44	15808,06	12276.29	15879,77	12429,16	16148,10	12510.59
45	15612,87	12047.02	15700,90	12238,48	16032,40	12340.29
46	15748,44	12188.24	15826,83	12357,11	16121,93	12446.42
47	15933,62	12428.67	15994,04	12555,84	16220,00	12623.37
48	15882,55	12370.45	15947,79	12508,71	16191,83	12582.25
49	15706,67	12056.35	15795,08	12246,71	16126,58	12347.91
50	15824,09	12225.02	15904,69	12391,38	16196,42	12479.40
51	15934,21	12445.68	15993,24	12569,88	16214,00	12635.84
52	15938,80	12447.24	15999,48	12575,40	16226,47	12643.51
53	15793,74	12087.18	15881,99	12276,51	16213,01	12377.15
54	16185,84	12429.13	16268,48	12606,24	16591,24	12700.24
55	15930,18	12460.55	15987,69	12581,76	16203,12	12646.15
56	15999,89	12527.04	16057,12	12647,86	16271,35	12712.05
57	19859,22	15045.89	19968,67	15275,45	20379,14	15398.25
58						
59	15891,67	12459.97	15947,20	12577,08	16155,13	12639.50
60	16188,16	12734.86	16240,46	12845,46	16436,17	12904.19
61	19744,67	14897.38	19852,89	15123,43	20259,84	15244.03
62						
63	15800,11	12407.27	15854,86	12522,90	16059,88	12594.33
64	16628,47	13166.74	16673,92	13263,35	16843,81	13314.59
65	19331,23	14592.21	19430,84	14803,91	19505,83	14915.99
66	14769,41	11161.49	14843,99	11318,61	15123,94	11402.13
67	16185,17	12784.00	16205,86	12891,93	16395,74	12949.19
68	16809,75	13383.98	16851,77	13473,87	17008,75	13521.50
69	18781,80	14229.99	18970,78	14419,14	19201,53	14519.98
70	16589,37	12729.29	16661,32	12882,88	16930,21	12964.58
71	17062,21	13857.25	17097,01	13933,47	17226,72	13973.79
72	17317,53	140[illegible].48	17349,22	14116,37	17467,21	14153.31

TABLE 22
CHLORIDE CONCENTRATIONS (mg/l)
(Continued)

- 1985 and 1995 -

Segment	No Project		Deep Water Discharge		DP 31 Disposal	
	Dry and Canning Seasons	Wet Season	Dry and Canning Seasons	Wet Season	Dry and Canning Seasons	Wet Season
73	18679.76	14219.04	18713.30	14373.84	18986.96	14458.27
74	17461.03	14098.35	17508.18	14205.63	17683.27	14262.49
75	17367.88	14309.91	17394.74	14371.17	17494.81	14403.56
76	17769.07	14403.44	17802.37	14407.85	17924.55	14632.25
77	17550.08	14460.10	17576.49	14626.40	17673.68	14661.27
78	17348.01	14712.95	17353.29	14751.97	17409.68	14772.44
79	17348.00	14712.95	17353.28	14751.97	17409.68	14772.44
80	17593.62	14488.87	17619.05	14634.88	17712.39	14689.54
81	17387.43	14665.76	17406.33	14715.02	17475.69	14740.84
82	17208.90	14764.51	17220.74	14796.69	17265.45	14813.5
83	17209.67	14754.44	17222.01	14773.06	17270.71	14791.10
84	17137.96	14795.66	17148.10	14822.90	17185.94	14837.15
85	17082.82	14776.01	17092.03	14800.96	17126.36	14814.06
86	17084.62	14821.24	17093.09	14844.61	17125.29	14856.84
87	17311.24	14672.68	17315.91	14684.90	17333.27	14691.35
88	16979.45	14743.02	16986.83	14762.75	17013.97	14773.12
89	16989.57	14905.73	16995.14	14920.90	17015.71	14924.90
90	16887.82	14654.13	16901.70	14665.54	16916.12	14671.02
91	16740.74	14688.24	16754.64	14690.82	16769.10	14704.30
92	16913.14	14978.87	16916.18	14983.32	16927.43	14987.70
93	17246.17	15612.97	17257.63	15617.42	17263.04	15619.74
94	17747.74	16513.05	17748.23	16514.66	17750.09	16515.49
95	16087.76	13982.62	16089.43	13986.81	16095.67	13989.0
96	16049.99	14105.65	16060.85	14108.31	16064.41	14109.70
97	17246.17	15612.97	17257.62	15617.41	17263.03	15619.74
98	1745.42	1.71	13912.20	14.31	16808.40	16.51
99	1745.42	41.97	13912.20	351.15	16808.41	405.15
100	1745.42	807.44	13912.20	2572.14	16808.41	2967.69
101	1745.42	469.07	13912.20	4760.45	16808.41	5492.52
102	1745.42	793.05	13912.20	6634.46	16808.41	7655.18
103	0.00	0.00	13984.92	54.30	16775.43	62.74
104	0.00	0.00	13984.92	348.07	16775.43	402.52
105	0.00	0.00	13984.92	2402.42	16775.44	2771.06
106	0.00	0.00	13984.92	4206.26	16775.44	4853.10
107	0.00	0.02	13984.92	5106.96	16775.44	5892.20
108	0.47	0.12	13984.92	5655.12	16775.44	6522.47

Table 22
CHLORIDE CONCENTRATIONS (mg/l)
(Continued)

- 1985 and 1995 -

Segment	No Project		Deep Water Discharge		DP 31 Disposal	
	Dry and Canning Seasons	Wet Season	Dry and Canning Seasons	Wet Season	Dry and Canning Seasons	Wet Season
109	7.46	2.59	13884.92	6187.46	16775.44	7139.98
110	43.76	26.03	13884.93	6711.34	16775.45	7743.42
111	369.49	176.20	13884.93	7225.94	16775.46	8337.16
112	949.63	407.17	13884.94	7581.72	16775.47	8747.65
113	9825.49	2232.59	13691.68	5484.87	16541.97	6328.34
114	9825.49	2968.35	13691.69	7292.42	16541.98	8413.87
115	9825.49	3380.94	13691.69	8109.49	16541.98	9356.59
116	9825.49	3421.64	13691.69	8406.03	16541.99	9695.73
117	9825.49	3403.14	13691.70	8606.25	16542.00	9929.74
118	10571.64	3492.10	13434.07	5300.16	16230.75	6115.23
119	10571.64	5939.59	13434.08	7885.51	16230.75	9098.15
120	10571.64	6824.80	13434.08	9061.03	16230.75	10454.45
121	1542.27	194.09	13428.37	1943.35	16223.86	2242.20
122	1542.28	470.90	13428.37	4714.75	16223.86	5439.00
123	3936.44	1737.68	13428.38	6481.21	16223.87	7477.90
124	7437.46	4288.26	13428.38	8172.42	16223.87	9429.65
125	10275.87	6689.97	13428.38	9190.28	16223.87	10603.50
126	14049.85	4490.36	14218.28	4661.04	15905.82	5053.35
127	14049.85	9106.89	14218.28	9453.05	15905.82	10248.69
128	14049.85	10892.69	14218.28	10476.32	15905.82	11354.09
129	14207.28	614.00	14343.35	637.15	15904.49	685.66
130	14207.28	3692.04	14343.36	3931.24	15904.49	4122.93
131	14207.28	6512.86	14343.36	6758.41	15904.49	7272.95
132	14207.28	9870.44	14343.36	9412.42	15904.50	10129.02
133	14207.28	10077.15	14343.36	10457.08	15904.50	11253.22
134	14207.28	10321.49	14343.36	10718.64	15904.50	11526.08
135	11288.42	8007.43	14547.99	10584.79	15838.29	11216.38
136	12206.19	8794.22	14547.99	10749.96	15839.29	11390.35
137	13037.41	9420.56	14547.99	10885.37	15839.30	11538.09
138	13630.91	10040.80	14547.99	10983.38	15838.30	11638.75
139	14039.33	10401.45	14547.99	11046.97	15838.30	11706.03
140	13985.41	9478.45	14087.96	9877.48	16006.47	10842.95
141	13985.41	9491.73	14087.96	10412.38	16006.47	11430.13

DP 31 Dry Season Chlorides are 15,000-17,000 mg/l throughout the main bay transect. Wet Season concentrations are projected to be 9,000 mg/l at milepoint 0 increasing to 11,000 mg/l at milepoint 6.0 and 13,000 mg/l at milepoint 14.

Conclusions

A. General

Dissolved Oxygen water quality in South San Francisco Bay and the contiguous sloughs is presently below standards. This water quality condition is evidenced by frequent violations of the State of California's minimum dissolved oxygen standard of 5.0 mg/l, and the State 's Level 'B' 90 percentile dissolved oxygen standard. The regions most susceptible to these violations are generally limited to the tidal sloughs, and Coyote Creek upstream of Calaveras point. The present water quality condition is dominated by the combined effect of municipal treatment plant loads and major uncontrollable non-point source loadings.

A detailed water quality modeling analysis indicates that four factors contribute to the existing problem. These are:

1. Existing municipal waste water treatment plant loads to the sloughs,

2. Apparent benthic deposits,

3. Apparent organic loading from marsh areas,

and

4. Poor flushing characteristics of the tidal sloughs.

The present study is principally concerned with evaluating alternative wastewater loading senarios; that is, alternatives directly related to treatment plants and their discharges. In this regard, one principal conclusion of the study is that reductions of wastewater loadings to those magnitudes indicated in this report, through increased treatment, will improve water quality in the region for all of the discharge alternatives considered in this study. These include the No Action alternative, the Nearest Deep Water Discharge alternative and the Disposal Point 31 alternative.

Further improvements in dissolved oxygen and relative toxicity water quality will be realized by relocation of the South Bay dischargers to the Nearest Deep Water Discharge or to Disposal Point 31. However, water quality in the immediate vicinity of such relocated discharges will be marginal in terms of compliance with water quality standards for dissolved oxygen. The results show that the 5.0 mg/l standard should be maintained, but there is a probability that the level 'B' - 90% standard will be violated periodically. These revised standards are more restrictive than those used in the original 1972 study, and on this basis there is not much difference between the Nearest Deep Water Discharge and the Disposal Point 31 discharge alternatives.

While the results of this study indicate that marginal compliance with respect to standards is achieved in the vicinity of relocated discharges, water quality problems will probably remain in the sloughs. The potentially positive impacts associated with removing major wastewater discharges from Artesian, Guadalupe and Mayfield sloughs will be minimized by the removal of substantial flushing flow (i.e. effluent flow) from these sloughs. Since it is suspected, on the basis of this analysis, that the future water quality of the sloughs will be dominated by background loads within those sloughs, dissolved oxygen water quality may not improve markedly under alternative management plans. This conclusion is based in large part on the apparent existance of marsh loads, the magnitude of which is only weakly verified and based on a single data set collected in the tidal sloughs.

In this regard there is some uncertainity in the magnitude of these loadings, and the model can only be considered calibrated rather than fully verified. In any event, the marsh loadings are best estimates based on the available data.

On the basis of the available data, the analysis, as presented, can be used to guide decisions with regard to the selection of a disposal alternative. However, in view of the relatively limited data base, some uncertainities remain regarding water quality effects, particularly in the slough areas.

Additional data aquisition could be used to refine estimates of the consquences of the various alternatives. Further, the desireability of strict compliance with all aspects of the revised water quality standards, in terms of the beneficial uses attributable to incremental improvements in Water Quality among the alternatives investigated, should be considered together with cost in the decision making process.

B. Specific

Based on the results of the study the following detailed conclusions are presented.

1. Dissolved Oxygen Concentration

The discharge alternatives considered in this report are expected to produce water quality in the major portion of South San Francisco Bay which is in marginal complaince with the State of California's minimum dissolved oxygen standard of 5.0 mg/l, the Level 'B' 90 percentile dissolved oxygen objective, and the relative toxicity concentration guideline of 40 ml/l. This conclusion considers wet, dry and canning season conditions in 1985 and 1995. The water quality limited areas vary in their spatial dimensions, and in the expected frequency of violations depending upon discharge alternative and season.

Water quality improvements in parts of the study area will, be realized in moving the San Jose/Santa Clara, Sunnyvale and Palo Alto discharges to either the Nearest Deep Water Discharge or Disposal Point 31. These improvements are principally improvements in dissolved oxygen concentrations in the region between Calaveras Point and Artesian Slough, and projected decreases in relative toxicity concentrations throughout the study area.

The greatest incremental improvement in dissolved oxygen water quality in the study area is realized for the alternative which considers the discharges of San Jose/Santa Clara, Sunnyvale and Palo Alto effluents at the Nearest Deep Water Discharge Point. This improvement is principally an increase in dissolved oxygen concentration in lower Artesian Slough and lower Coyote Creek. However, even under this discharge condition water quality standards are not met fully within that area. In a similar fashion the largest decrease in regional relative toxicity concentrations results from the Nearest Deep Water Discharge Alternative. The Disposal Point 31 discharge alternative, however, will yield relative toxicity concentrations in marginal compliance with the state guideline.

A model calibration analysis indicates that the greatest single factor apparently contributing to violations of dissolved oxygen water quality objectives under projected conditions is background distributed loadings of dissolved oxygen demand from apparent marsh loads and benthic oxygen demand. The magnitude of the loading is only weakly verified because it is based on data collected during a single survey in June, 1967. However, the analysis indicates the existance of such loads, and subsequently provided a best estimate of the daily loading rate. The removal of effluent flows, which presently enhance the flushing capacity of sloughs to which they discharge, is expected to increase the effects of these background loads in Artesian and Guadalupe sloughs.

The dry weather and canning season periods are critical with respect to water quality. During these periods water quality violations are expected to be most frequent in effected areas, and the size of the effected area is expected to be greatest.

In view of these conclusions, confidence in the projected profiles for dissolved oxygen, is related to the accuracy with which background flow and loading information used in the calculations is defined. Storm water runoff flows are believed to be adequately defined within the accuracy of the analysis. The oxygen demand loading from marsh areas are estimated from consideration of observed BOD, ammonia nitrogen, and dissolved oxygen data in sloughs which have treatment-plant loads as well as those which do not. It is believed that the marsh load estimates are reasonable estimates for use in this study.

As a test of the study conclusions to the magnitude of background loads, two sensitivity analysis simulations were conducted. In the first all bottom demand loads were reduced by 50% throughout the study area, while in the second a 50% reduction in marsh loads was analysed. The results of these analyses show that the basic study conclusions with regard to violations of water quality standards are unaltered by these reductions. The principal effect is to reduce the extent of the effected areas slightly.

Additional confidence in these loadings, and consequently in the study conclusions could be gained through a systematic field program designed to measure marsh related loadings in South San Francisco Bay.

A summary of this study's results, which support in part these conclusions, is presented in the accompanying table. Detailed results and other supporting analyses are contained elsewhere in the report.

The table refers only to 1985 dry weather conditions. The first column of the table presents the four alternatives described in Chapter 1. The second column shows the number of miles on the main transect over which the 5.0 mg/l standard is violated and the minimum 90% concentration occuring in the effected area. The 5.0 mg/l standard in this case is interpreted as "not less than 5.0 mg/l more than 10% of the time."

The third column presents the number of miles in which the 90 percentile/standard is violated on the main transect. The fourth column is a tabulation of the minimum 90 percentile dissolved oxygen concentration downstream of Calavaris Point. Column five is the peak computed relative toxicity concentration in the study area under the four alternatives while column six is the range of chlorides in South Bay for each alternate.

2. Relative Toxicity Concentration

These study results show that there is no significant differences, from the stand point of dissolved oxygen water quality, between the Nearest Deep Water Discharge alternate and the Disposal Point 31 alternative. The major difference between these alternatives is a computed reduction in the potential for chronic bioinhibitory effects to sensitive biological species for discharge at Disposal Point 31. In this regard peak relative toxicity concentrations in the

TABLE 23

SUMMARY OF STUDY RESULTS
1985 - DRY WEATHER

Alternative	No. of Miles Violating 5 mg/l Standard on Main Transect Miles (Min.D.O.)	Increase D.O. in Lower Coyote Creek (mg/l)	No. of Miles Violating 90 Percentile Standard on Main Transect (mg/l)	Minimum 90% D.O. on Main Transect Downstream Calaveras Pt. (mg/l)	Maximum Relative Toxicity Conc.[1] (mg/l)	Range of Chloride Conc. on Main Transect (mg/l)
No Project	2.0 (3.8)	-	15.0	5.6	400	2,000 - 16,000
No Project Upgrade Treatment at SJ/JC	1.1 (4.8)	1.0	14.0	5.6	400	2,000 - 16,000
Deep Water Discharge	1.0 (4.8)	1.0	16.0	5.3	125	14,000 - 16,000
D.P. 31 Discharge	1.3 (4.6)	0.8	17.5	5.2	50	15,000 - 17,000

[1] Based on Toxic Strength for Bioassays were 95% of the Test Species Survive as Defined in State of California Standards.

study area are reduced from 125 ml/l to 55 ml/l by moving the discharge location to north of Dunbarton Bridge.

No management alternatives considered in this study will reduce relative toxicity concentrations such that they comply with the toxicity guideline of 40 ml/l throughout the study area during dry or wet season. The largest incremental improvement in terms of lowering relative toxicity concentration is realized by going from the No Project alternate to Nearest Deep Water Discharge alternate Table A summarizes relative toxicity concentrations in South Bay under each of the four alternatives.

3. Chloride Concentrations

The largest incremental increase in chloride concentration would be achieved by implementation of the Nearest Deep Water Discharge Alternative over the No Project alternative. Chloride concentrations in South Bay for the four alternatives are presented in Table A.

REFERENCES

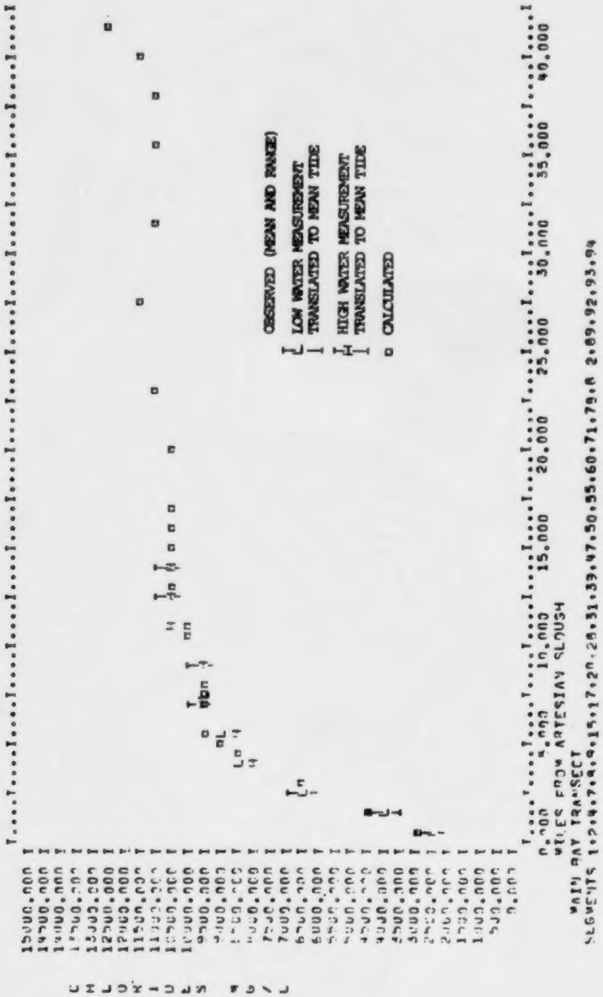
(1) Consoer, Townsend, and Associates, "A Comprehensive Study of the Waste Treatment Requirements for the Cities of San Jose and Santa Clara and Tributary Agencies, Phase I, Assimilative Capacity of South San Francisco Bay," December, 1968.

(2) [a] Consoer-Bechtel Engineers, "Water Quality Management Plan for South San Francisco Bay, Final Report," Prepared for South Bay Dischargers, March, 1972.

(2) [b] Appendices to above.

APPENDIX A

RESULTS OF JUNE 1967
VERIFICATION ANALYSIS



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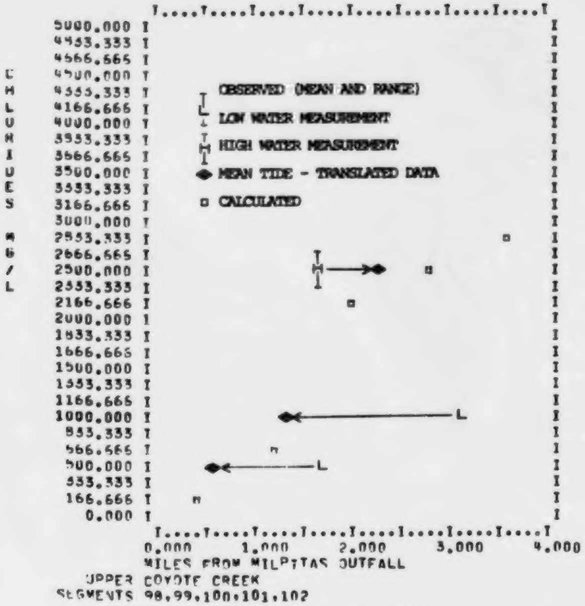

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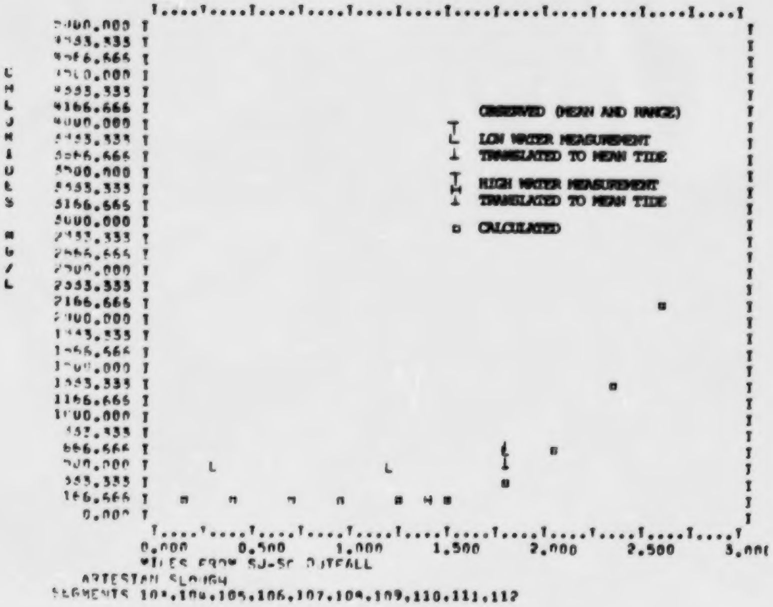

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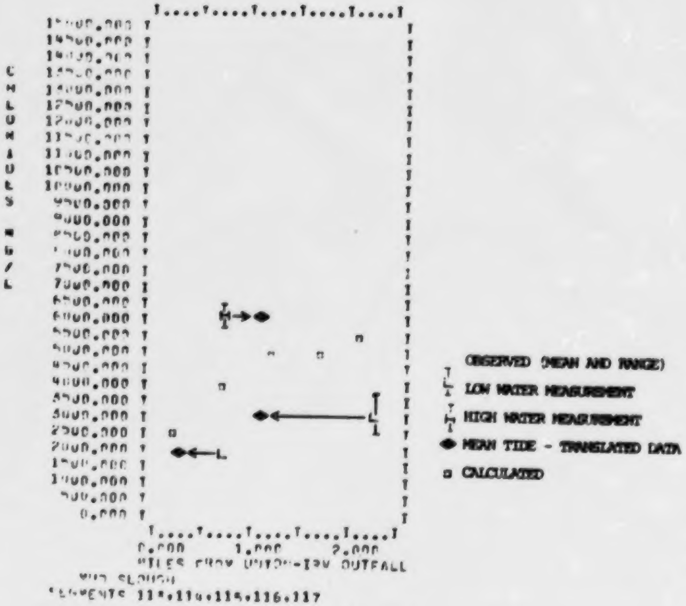

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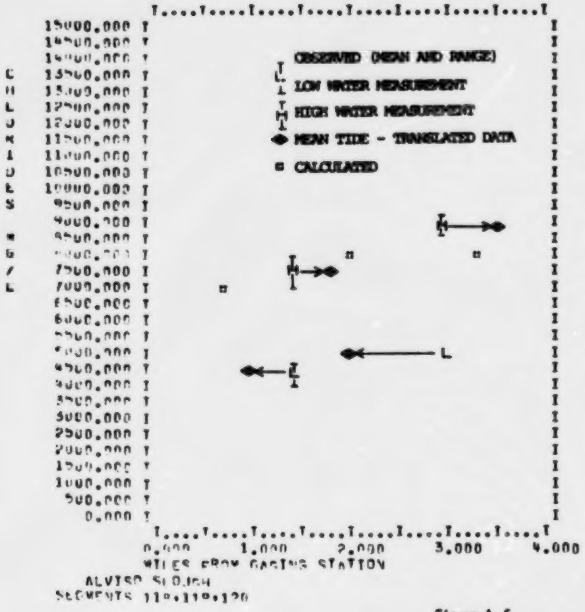

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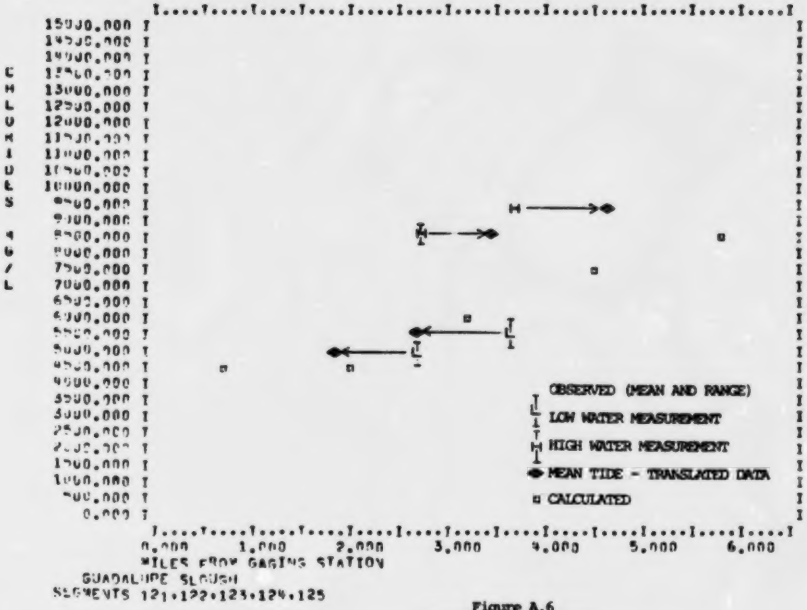

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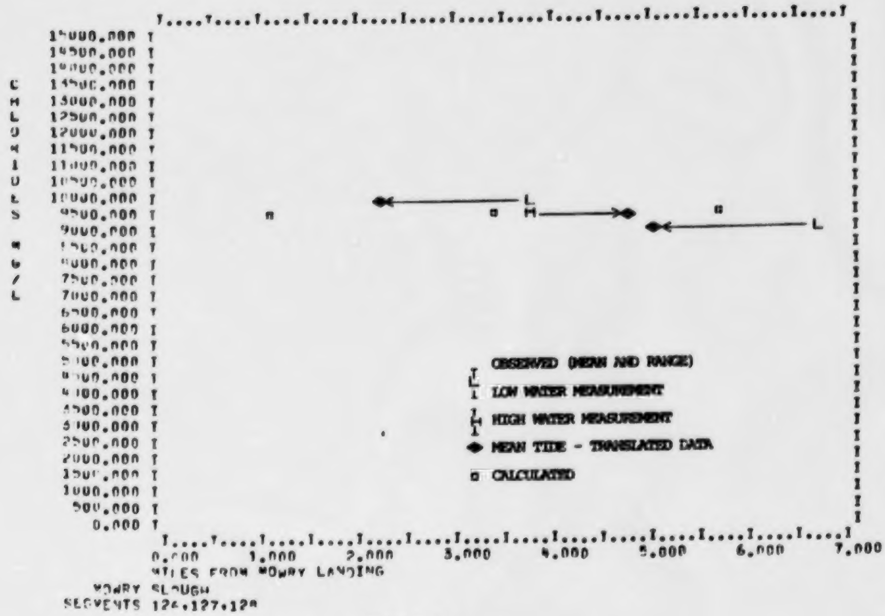

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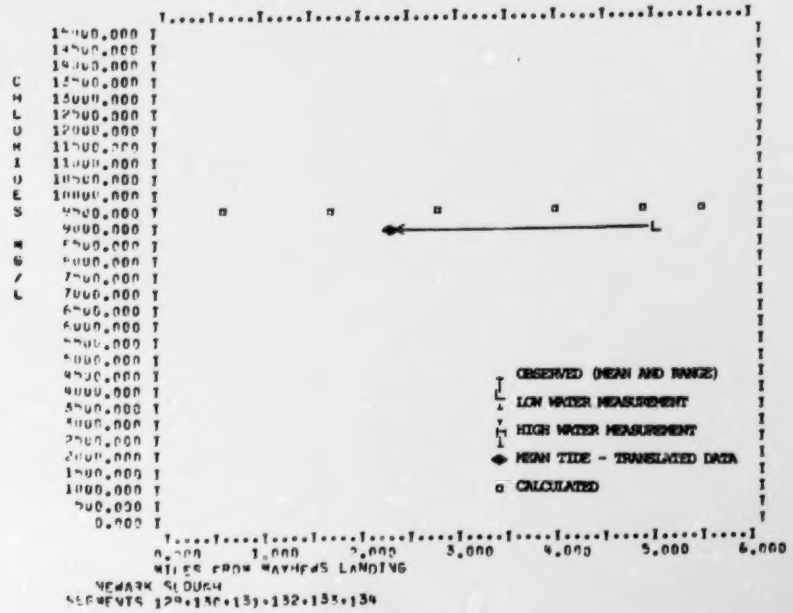

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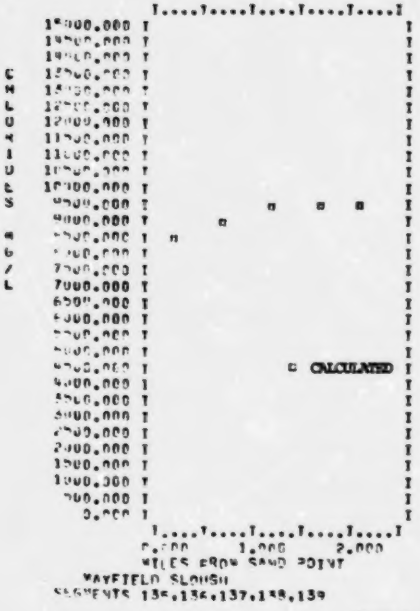

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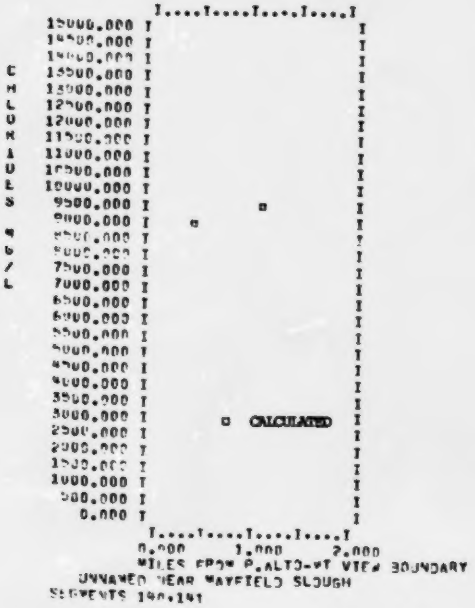

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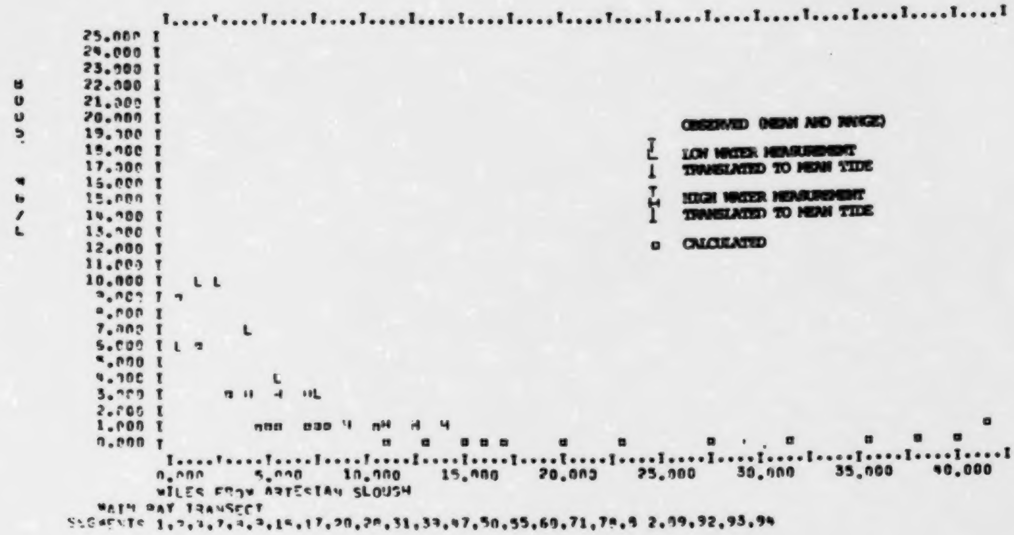

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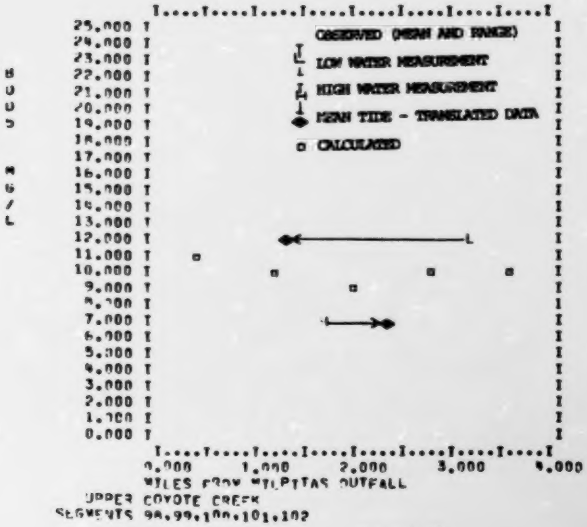

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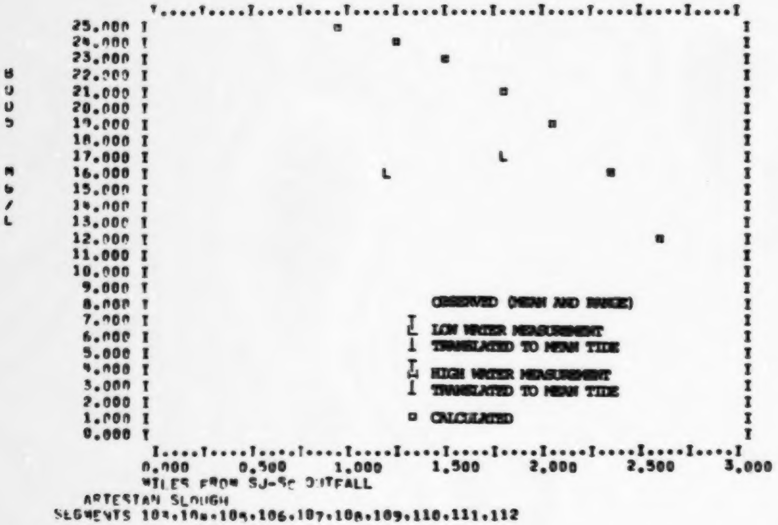

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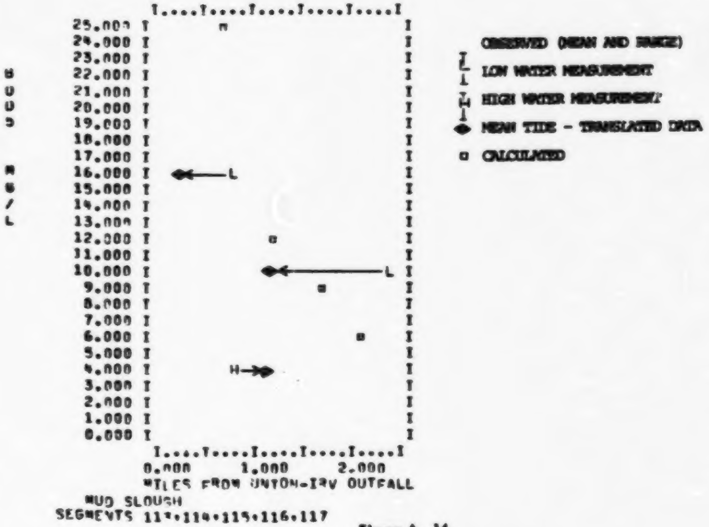

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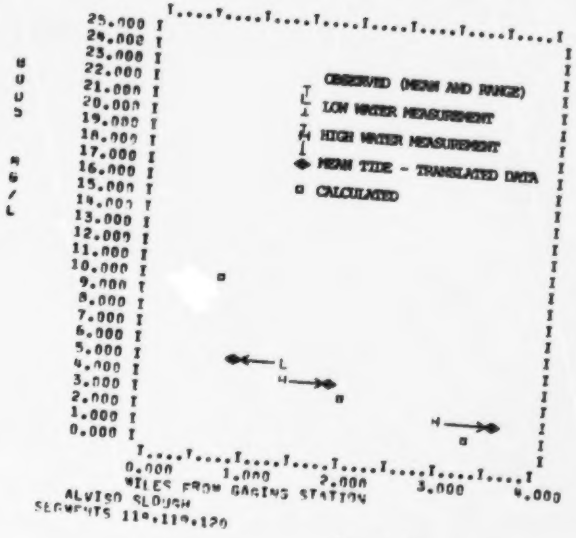

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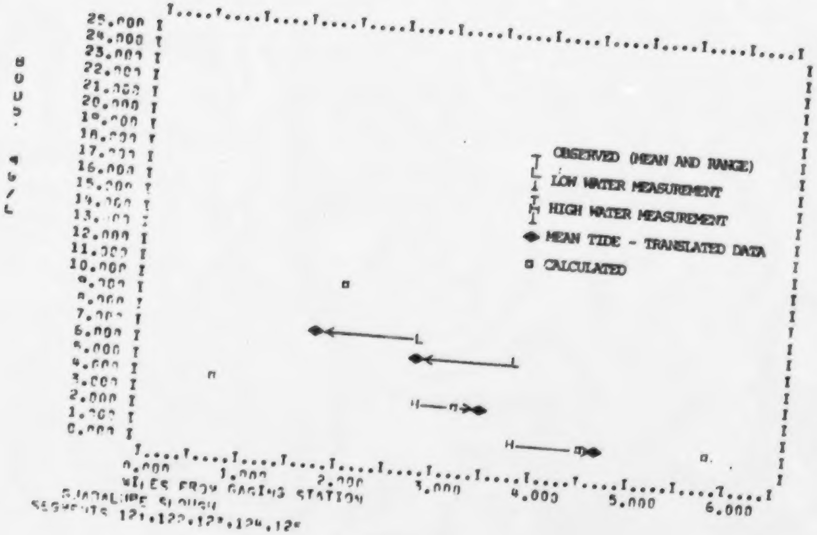

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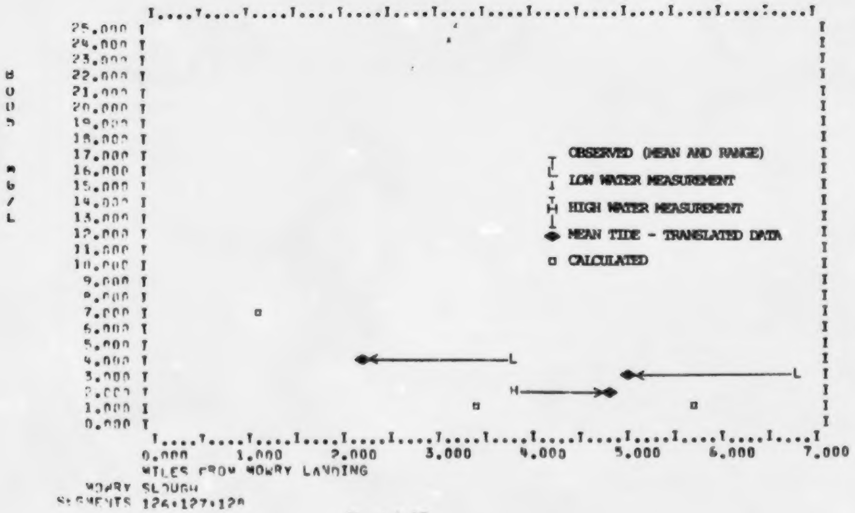

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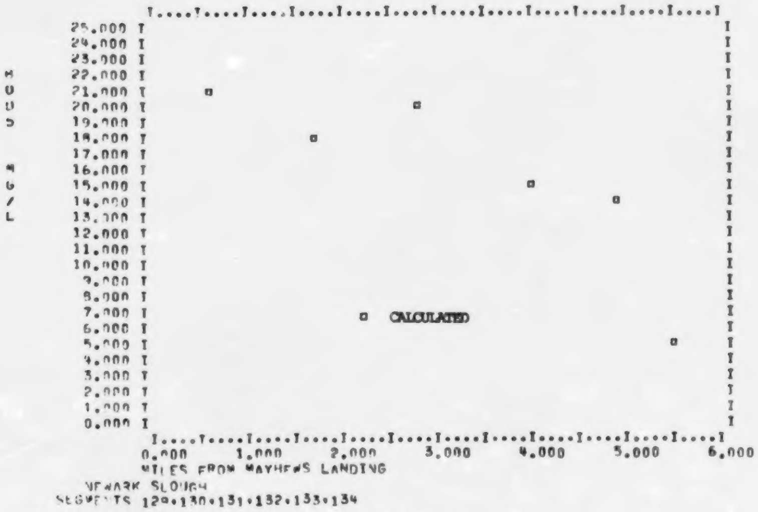

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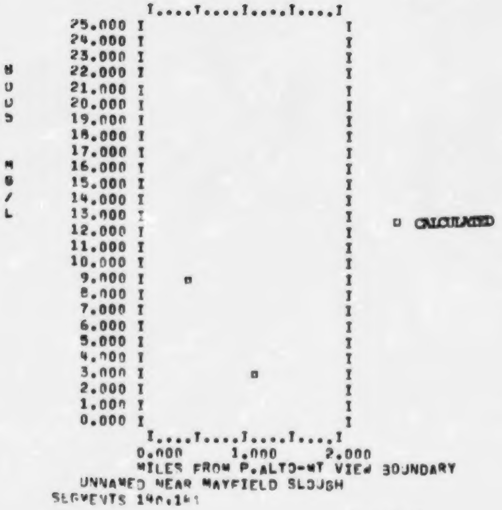

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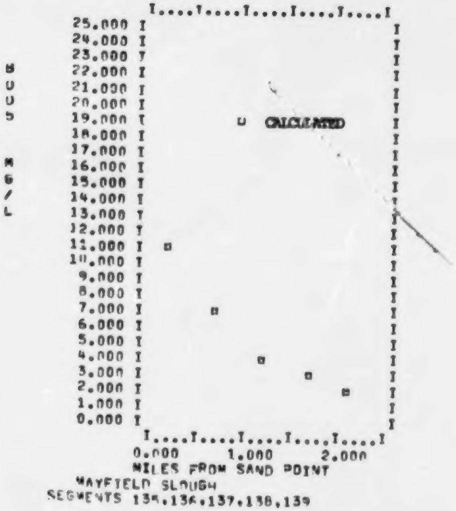

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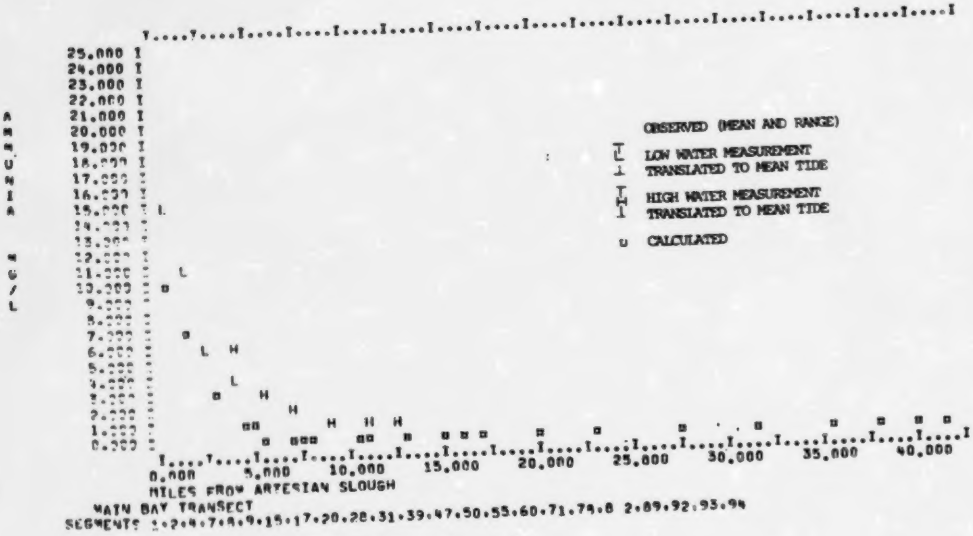

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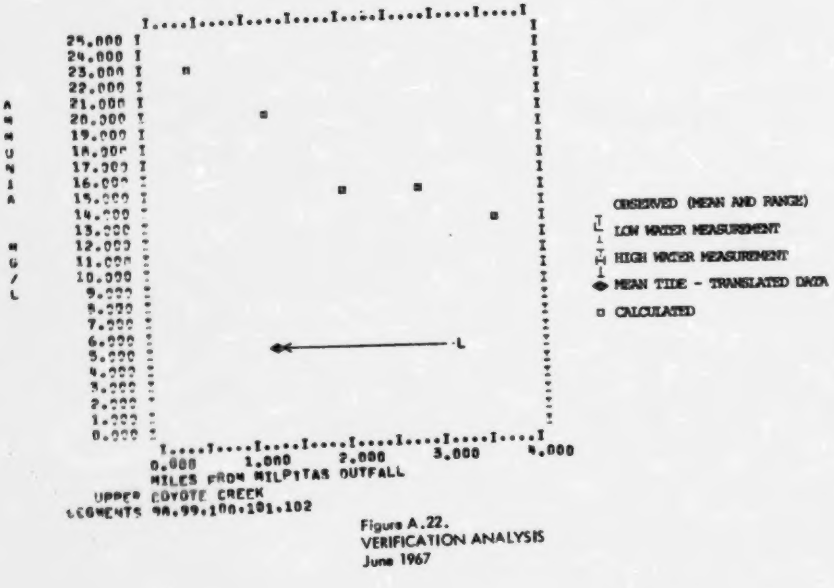

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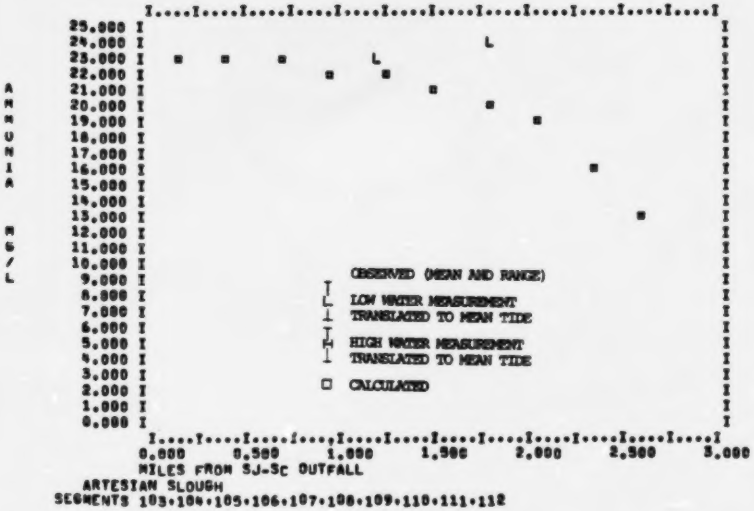

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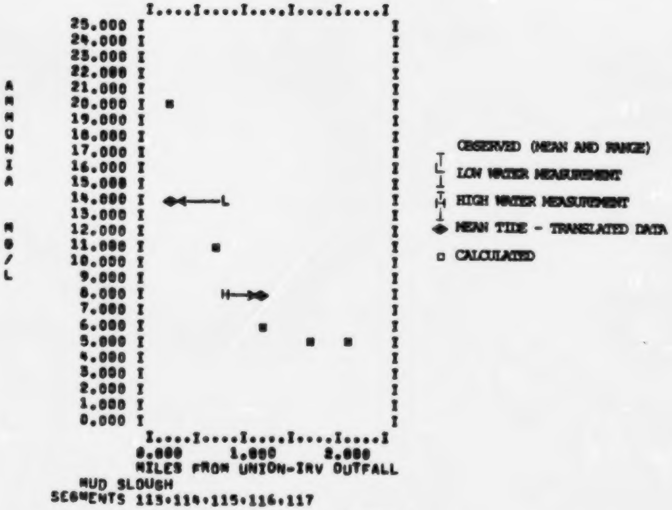

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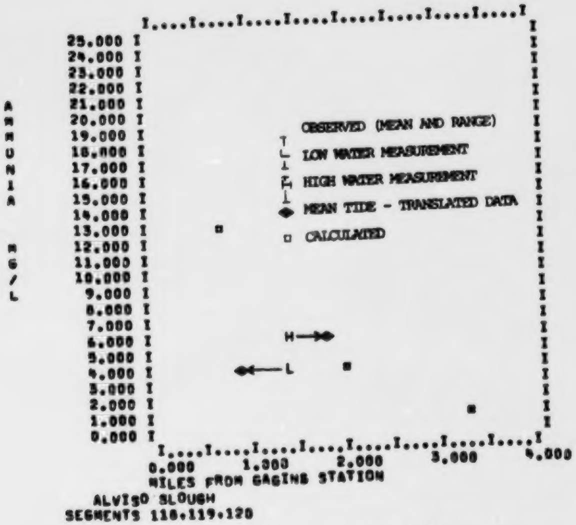

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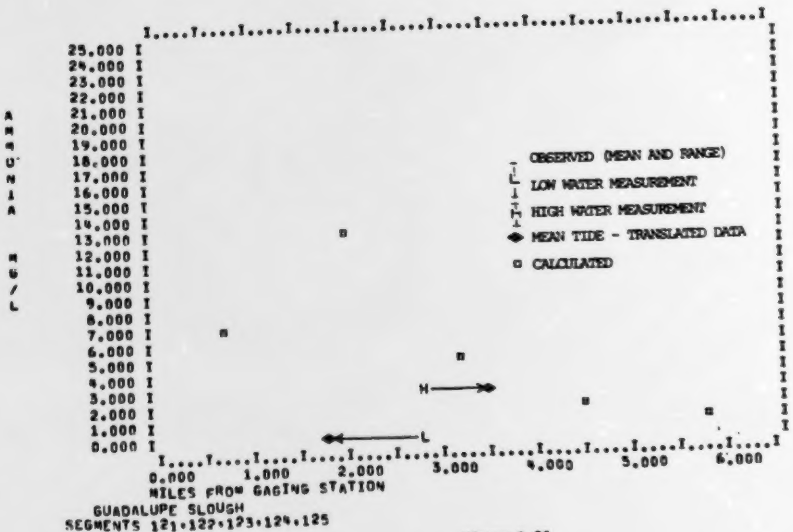

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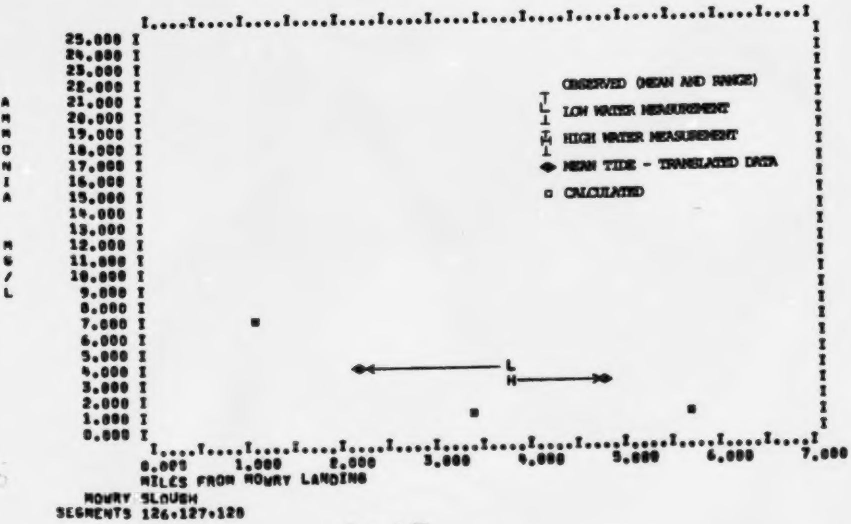

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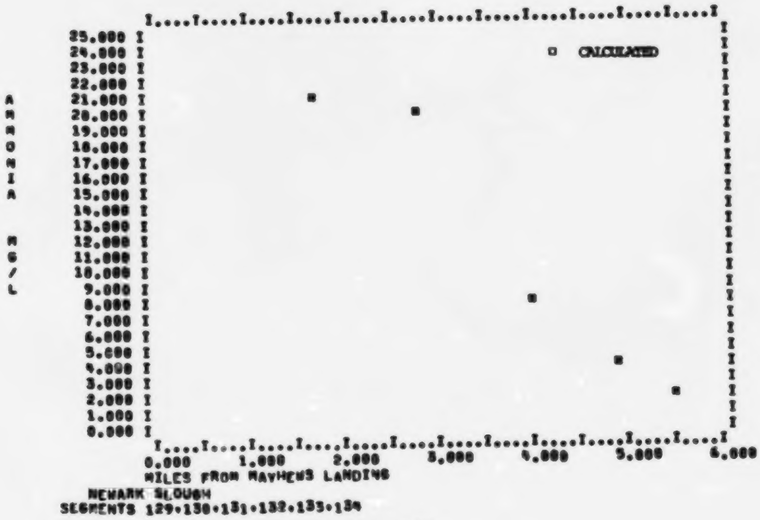

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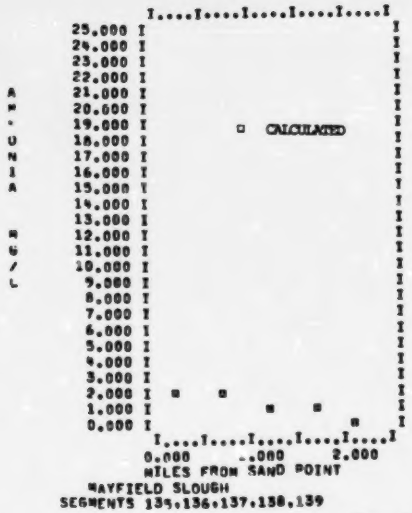

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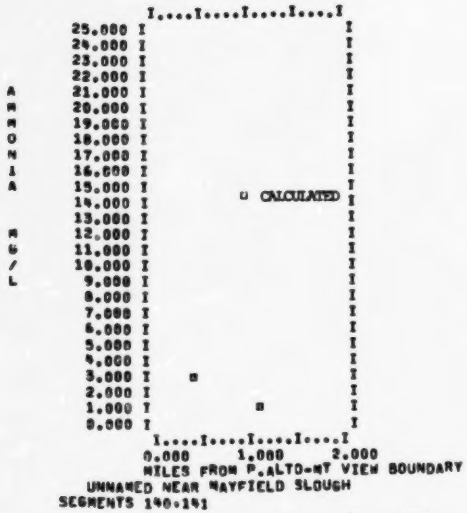

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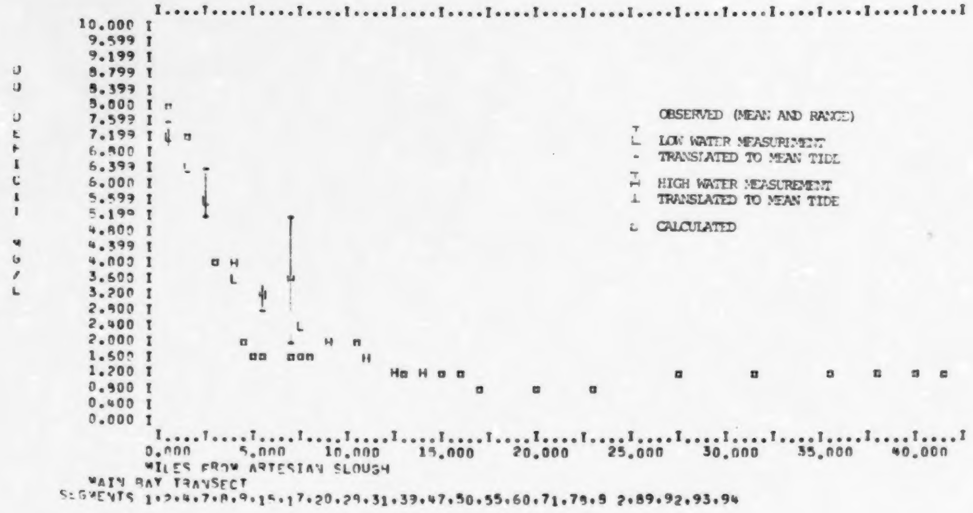

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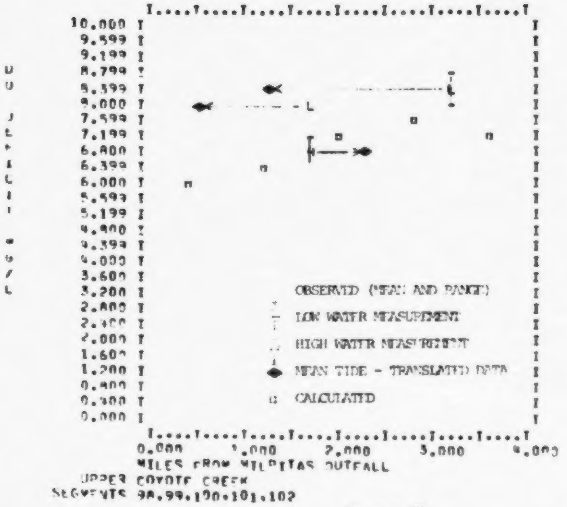

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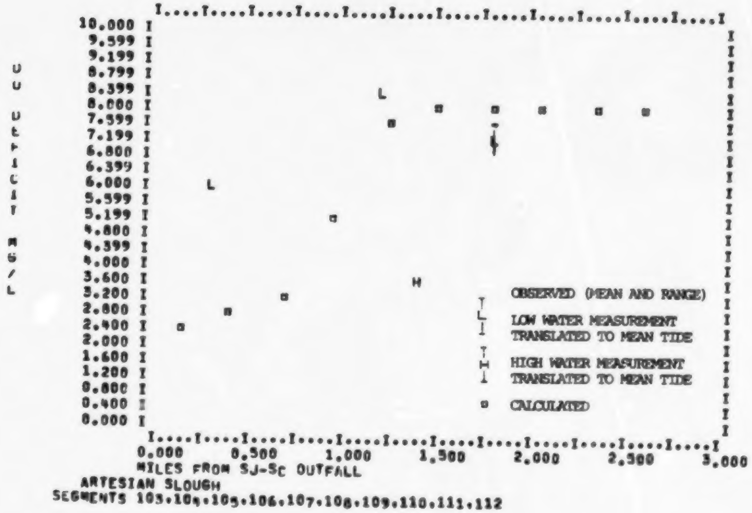

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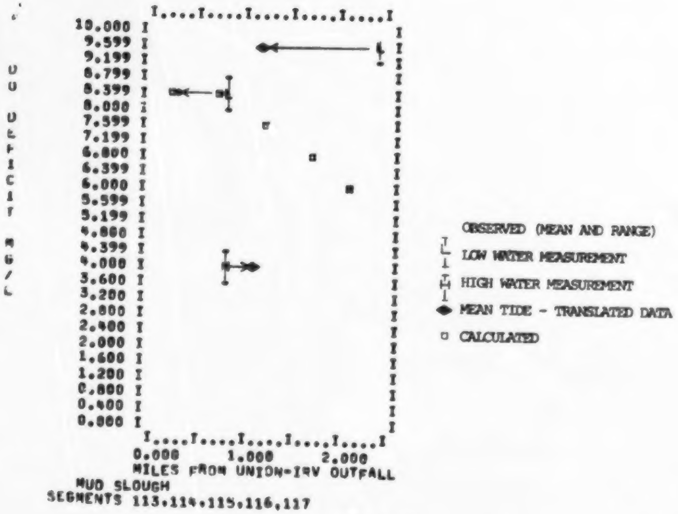

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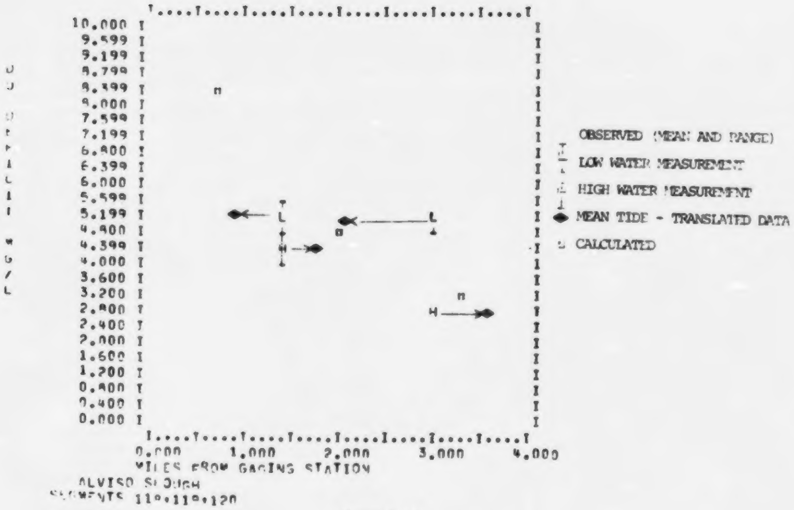

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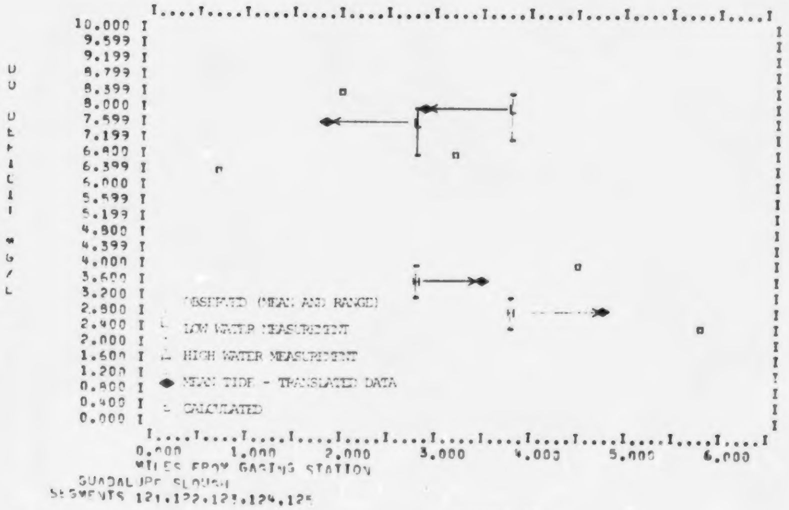

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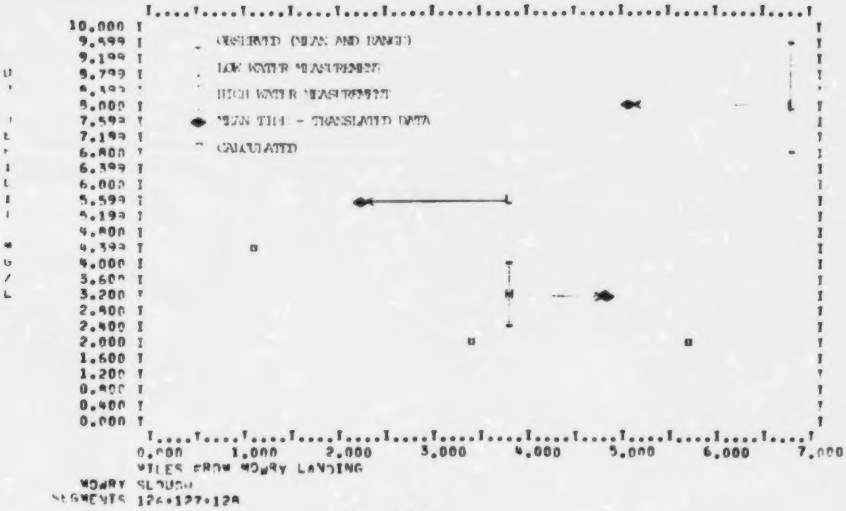

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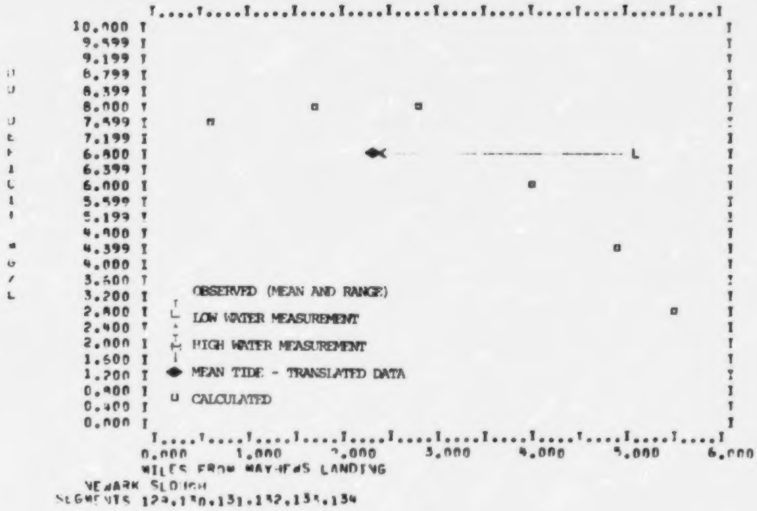

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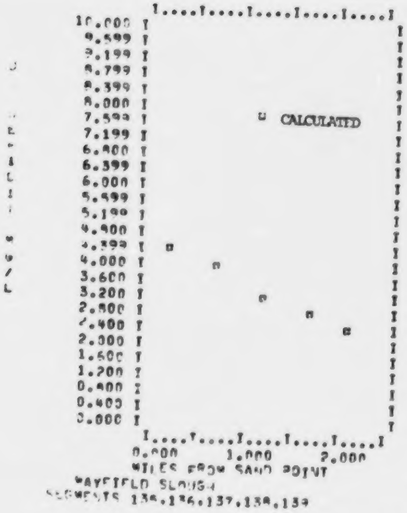

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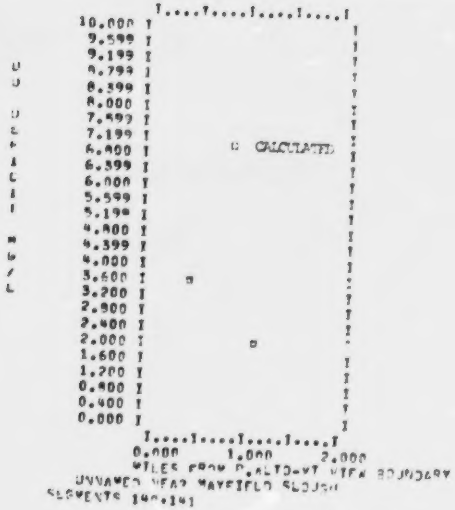

Figure A.40.
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APPENDIX B

TABULAR RESULTS OF UNIT RESPONSE ANALYSIS

TABLE 1

CONCENTRATION OF CONSERVATIVE MATERIAL (mg/l) FROM UNIT LOAD OF CONSERVATIVE MATERIAL (10,000 POUNDS/DAY)
- NO PROJECT -

1985

Response in Segment / Discharge Segment:	Dry Season San Jose (103)			Canning Season San Jose (103)			Wet Season San Jose (103)		
Response in Segment / Discharge Segment:	Dry Season			Canning Season			Wet Season		
	San Jose (103)	Sunnyvale (122)	Palo Alto (135)	San Jose (103)	Sunnyvale (122)	Palo Alto (135)	San Jose (103)	Sunnyvale (122)	Palo Alto (135)
1	9.88	0.62	0.14	8.00	0.24	0.09	8.86	0.43	0.09
2	8.61	1.08	0.29	7.22	0.60	0.22	7.76	0.83	0.21
3	7.17	1.52	0.46	6.21	1.03	0.39	6.48	1.24	0.36
4	6.02	1.92	0.59	5.39	1.36	0.50	5.53	1.55	0.47
5	4.80	2.13	0.72	4.40	1.75	0.64	4.45	1.88	0.60
6	3.73	2.39	0.84	3.48	2.10	0.77	3.47	2.17	0.72
7	2.90	2.58	0.93	2.74	2.37	0.87	2.71	2.40	0.82
8	2.56	2.56	0.97	2.45	2.48	0.91	2.41	2.49	0.86
9	1.96	2.01	1.05	1.89	1.90	1.01	1.84	1.89	0.95
10	2.11	2.08	1.04	1.92	1.94	1.00	1.88	1.93	0.94
11	1.72	1.75	1.08	1.65	1.67	1.04	1.61	1.64	0.98
12	1.70	1.73	1.09	1.63	1.65	1.05	1.59	1.62	0.99
13	1.37	1.40	1.11	1.33	1.34	1.09	1.28	1.31	1.03
14	1.44	1.45	1.11	1.39	1.40	1.08	1.34	1.37	1.02
15	1.48	1.51	1.11	1.45	1.44	1.09	1.38	1.41	1.03
16	1.38	1.37	1.11	1.31	1.32	1.09	1.25	1.29	1.03
17	1.37	1.39	1.11	1.33	1.34	1.09	1.28	1.30	1.03
18	1.38	1.41	1.13	1.34	1.35	1.10	1.29	1.32	1.05
19	1.31	1.35	1.11	1.27	1.28	1.09	1.22	1.25	1.03
20	1.31	1.34	1.12	1.27	1.29	1.09	1.22	1.25	1.04
21	1.38	1.40	1.13	1.33	1.34	1.11	1.28	1.31	1.05
22	1.26	1.30	1.11	1.24	1.25	1.09	1.20	1.22	1.03
23	1.21	1.28	1.11	1.18	1.15	1.09	1.13	1.19	1.04
24	1.26	1.30	1.17	1.24	1.25	1.14	1.19	1.22	1.09
25	1.12	1.14	1.09	1.09	1.10	1.08	1.04	1.06	1.02
26	1.10	1.11	1.09	1.07	1.07	1.07	1.02	1.04	1.02
27	1.15	1.17	1.42	1.11	1.12	1.40	1.06	1.09	1.34
28	1.03	1.04	1.02	1.00	1.01	1.01	0.95	0.97	0.95
29	0.92	0.93	0.92	0.90	0.90	0.90	0.86	0.87	0.86
30	0.72	0.73	0.72	0.71	0.71	0.71	0.67	0.68	0.67
31	0.75	0.76	0.74	0.73	0.73	0.73	0.69	0.70	0.69
32	0.61	0.61	0.61	0.60	0.60	0.60	0.55	0.56	0.55
33	0.60	0.60	0.59	0.59	0.59	0.59	0.54	0.55	0.54
34	0.57	0.57	0.58	0.57	0.57	0.57	0.53	0.54	0.53
35	0.54	0.55	0.54	0.53	0.54	0.54	0.49	0.50	0.49
36	0.52	0.52	0.51	0.50	0.51	0.51	0.46	0.47	0.46

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TABLE 1
(continued)

CONCENTRATION OF CONSERVATIVE MATERIAL (mg/l) FROM UNIT LOAD OF CONSERVATIVE MATERIAL (10,000 POUNDS/DAY)
- NO PROJECT -

1985

Response in Segment / Discharge: Segment:	Dry Season			Canning Season			Wet Season		
	San Jose (103)	Sunnyvale (122)	Palo Alto (135)	San Jose (103)	Sunnyvale (122)	Palo Alto (135)	San Jose (103)	Sunnyvale (122)	Palo Alto (135)
37	0.59	0.61	0.59	0.58	0.58	0.59	0.54	0.54	0.54
38	0.56	0.57	0.56	0.55	0.55	0.55	0.51	0.52	0.51
39	0.40	0.40	0.40	0.39	0.39	0.39	0.35	0.35	0.35
40	0.46	0.46	0.45	0.45	0.45	0.45	0.41	0.41	0.41
41	0.58	0.59	0.58	0.57	0.57	0.57	0.53	0.53	0.53
42	0.53	0.54	0.53	0.52	0.52	0.52	0.48	0.49	0.48
43	0.35	0.36	0.35	0.35	0.35	0.35	0.31	0.31	0.31
44	0.40	0.40	0.40	0.39	0.39	0.39	0.35	0.36	0.35
45	0.51	0.51	0.51	0.50	0.50	0.50	0.46	0.46	0.46
46	0.44	0.45	0.44	0.44	0.44	0.44	0.39	0.39	0.39
47	0.33	0.33	0.32	0.32	0.32	0.32	0.28	0.28	0.28
48	0.36	0.36	0.36	0.35	0.35	0.35	0.31	0.31	0.31
49	0.51	0.51	0.50	0.50	0.50	0.50	0.45	0.46	0.45
50	0.44	0.44	0.43	0.43	0.43	0.43	0.38	0.39	0.39
51	0.32	0.32	0.32	0.31	0.31	0.31	0.27	0.28	0.27
52	0.33	0.33	0.33	0.32	0.32	0.32	0.28	0.29	0.28
53	0.50	0.51	0.50	0.50	0.50	0.50	0.45	0.45	0.45
54	0.46	0.47	0.46	0.45	0.45	0.45	0.40	0.41	0.40
55	0.31	0.31	0.31	0.30	0.30	0.30	0.26	0.27	0.26
56	0.31	0.31	0.31	0.30	0.30	0.30	0.26	0.27	0.26
57	0.58	0.59	0.58	0.57	0.57	0.57	0.50	0.51	0.50
58	0.61	0.62	0.61	0.60	0.60	0.60	0.53	0.53	0.53
59	0.30	0.30	0.29	0.29	0.29	0.29	0.25	0.26	0.25
60	0.28	0.28	0.28	0.28	0.29	0.29	0.24	0.24	0.24
61	0.58	0.58	0.57	0.56	0.57	0.57	0.50	0.50	0.50
62	0.31	0.31	0.31	0.30	0.31	0.31	0.27	0.27	0.27
63	0.29	0.29	0.29	0.29	0.29	0.29	0.25	0.25	0.25
64	0.24	0.25	0.24	0.24	0.24	0.24	0.21	0.21	0.21
65	0.54	0.55	0.54	0.54	0.54	0.54	0.48	0.49	0.49
66	0.40	0.40	0.40	0.39	0.39	0.39	0.34	0.35	0.34
67	0.27	0.27	0.27	0.27	0.27	0.27	0.23	0.24	0.23
68	0.23	0.23	0.23	0.22	0.22	0.22	0.19	0.20	0.19
69	0.49	0.49	0.48	0.49	0.49	0.49	0.43	0.43	0.43
70	0.38	0.39	0.39	0.38	0.38	0.39	0.34	0.34	0.34
71	0.19	0.19	0.19	0.19	0.19	0.19	0.16	0.17	0.16
72	0.17	0.17	0.17	0.17	0.17	0.17	0.15	0.15	0.15

TABLE 1

(continued)

CONCENTRATION OF CONSERVATIVE MATERIAL (mg/l) FROM UNIT LOAD OF CONSERVATIVE MATERIAL (10,000 POUNDS/DAY)
- NO PROJECT -

1985

Response in Segment	Discharge: Segment:	Dry Season San Jose (103)	Dry Season Sunnyvale (122)	Dry Season Palo Alto (135)	Canning Season San Jose (103)	Canning Season Sunnyvale (122)	Canning Season Palo Alto (135)	Wet Season San Jose (103)	Wet Season Sunnyvale (122)	Wet Season Palo Alto (135)
73		0.40	0.41	0.40	0.40	0.40	0.40	0.36	0.36	0.36
74		0.26	0.26	0.26	0.26	0.26	0.26	0.24	0.24	0.24
75		0.15	0.15	0.15	0.15	0.15	0.15	0.13	0.13	0.13
76		0.19	0.19	0.19	0.19	0.19	0.19	0.18	0.18	0.18
77		0.15	0.15	0.15	0.15	0.15	0.15	0.14	0.14	0.14
78		0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
79		0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
80		0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
81		0.11	0.11	0.11	0.11	0.11	0.11	0.10	0.10	0.10
82		0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
83		0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
84		0.06	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05
85		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
86		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
87		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
88		0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
89		0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
90		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
91		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
92		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
93		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
94		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
96		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
98		10.02	0.62	0.14	8.03	0.24	0.09	0.01	0.00	0.00
99		10.02	0.62	0.14	8.03	0.24	0.09	0.59	0.01	0.00
100		10.02	0.62	0.14	8.03	0.24	0.09	2.92	0.14	0.03
101		10.02	0.52	0.14	8.03	0.24	0.09	5.40	0.26	0.05
102		10.02	0.52	0.14	8.03	0.24	0.09	7.53	0.37	0.09
103		11.19	0.00	0.00	8.39	0.00	0.00	10.19	0.00	0.00
104		11.19	0.00	0.00	8.39	0.00	0.00	10.19	0.00	0.00
105		11.19	0.00	0.00	8.39	0.00	0.00	10.19	0.00	0.00
106		11.19	0.00	0.00	8.39	0.00	0.00	10.20	0.00	0.00
107		11.19	0.00	0.00	8.39	0.00	0.00	10.19	0.00	0.00
108		11.19	0.00	0.00	8.39	0.00	0.00	10.19	0.00	0.00

TABLE 1

(continued)

CONCENTRATION OF CONSERVATIVE MATERIAL (mg/l) FROM UNIT LOAD OF CONSERVATIVE MATERIAL (10,000 POUNDS/DAY)
- NO PROJECT -

1985

Response in Segment / Discharge: Segment:	Dry Season San Jose (103)	Dry Season Sunnyvale (122)	Dry Season Palo Alto (135)	Canning Season San Jose (103)	Canning Season Sunnyvale (122)	Canning Season Palo Alto (135)	Wet Season San Jose (103)	Wet Season Sunnyvale (122)	Wet Season Palo Alto (135)
109	11.19	0.01	0.00	8.39	0.00	0.00	10.19	0.00	0.00
110	11.19	0.05	0.00	8.39	0.00	0.00	10.16	0.03	0.00
111	10.93	0.19	0.02	8.34	0.03	0.0	9.93	0.12	0.01
112	10.81	0.40	0.09	8.21	0.12	0.04	9.46	0.27	0.05
113	7.13	1.52	0.46	6.21	1.03	0.38	4.04	0.77	0.22
114	7.13	1.52	0.46	6.21	1.03	0.39	5.37	1.03	0.29
115	7.13	1.52	0.46	6.21	1.03	0.38	5.97	1.14	0.33
116	7.13	1.52	0.45	6.21	1.03	0.39	6.19	1.19	0.34
117	7.13	1.52	0.46	6.21	1.03	0.39	6.34	1.22	0.35
118	5.73	2.39	0.84	3.48	2.10	0.77	1.93	1.20	0.40
119	3.73	2.39	0.94	3.48	2.10	0.77	2.87	1.79	0.59
120	3.73	2.39	0.94	3.48	2.10	0.77	3.30	2.06	0.69
121	0.20	66.19	0.12	0.09	47.46	0.03	0.05	21.54	0.01
122	0.20	66.19	0.12	0.08	47.46	0.03	0.13	52.35	0.04
123	0.62	52.72	0.31	0.40	41.98	0.15	0.49	34.99	0.17
124	1.41	31.15	0.59	1.13	27.61	0.42	1.21	28.62	0.43
125	2.09	16.35	0.92	1.87	13.69	0.70	1.89	13.91	0.67
126	1.56	1.37	1.11	1.31	1.32	1.09	0.54	0.55	0.84
127	1.36	1.37	1.11	1.31	1.32	1.09	1.10	1.12	0.90
128	1.55	1.37	1.11	1.31	1.32	1.09	1.22	1.25	1.00
129	1.29	1.31	1.11	1.25	1.26	1.09	0.87	0.07	0.06
130	1.22	1.31	1.11	1.25	1.26	1.09	0.42	0.43	0.36
131	1.20	1.31	1.11	1.25	1.26	1.09	0.74	0.76	0.54
132	1.29	1.31	1.11	1.25	1.25	1.09	1.04	1.06	0.89
133	1.22	1.31	1.11	1.25	1.26	1.09	1.15	1.17	0.39
134	1.22	1.31	1.11	1.25	1.25	1.09	1.18	1.20	1.02
135	0.90	1.09	9.51	0.88	0.99	9.50	0.80	0.97	9.22
136	1.04	1.05	7.00	0.95	0.96	6.99	0.88	0.95	6.82
137	1.00	1.13	4.75	1.02	1.02	4.73	0.95	1.01	4.63
138	1.12	1.13	3.14	1.06	1.07	3.12	1.01	1.05	3.05
139	1.14	1.15	2.03	1.10	1.10	2.31	1.04	1.37	1.95
140	1.40	1.51	1.12	1.44	1.45	1.09	1.28	1.31	0.96
141	1.40	1.51	1.12	1.44	1.45	1.09	1.35	1.39	1.01

TABLE 2

CONCENTRATION OF CONSERVATIVE MATERIAL (mg/l) FROM UNIT LOAD OF CONSERVATIVE MATERIAL (10,000 POUNDS/DAY)
- NO PROJECT -

1995

Response in Segment / Discharge Segment:	Dry Season San Jose (103)	Dry Season Sunnyvale (122)	Dry Season Palo Alto (135)	Canning Season San Jose (103)	Canning Season Sunnyvale (122)	Canning Season Palo Alto (135)	Wet Season San Jose (103)	Wet Season Sunnyvale (122)	Wet Season Palo Alto (135)
1	9.96	0.24	0.09	7.08	0.12	0.04	8.25	0.20	0.07
2	7.91	0.60	0.22	6.54	0.40	0.14	7.33	0.52	0.18
3	6.67	1.03	0.38	5.74	0.79	0.28	6.19	0.91	0.31
4	5.70	1.36	0.50	5.05	1.12	0.40	5.33	1.23	0.43
5	4.60	1.75	0.64	4.18	1.53	0.55	4.32	1.60	0.56
6	3.60	2.10	0.77	3.34	1.92	0.69	3.38	1.95	0.68
7	2.81	2.37	0.87	2.64	2.24	0.80	2.64	2.24	0.78
8	2.50	2.49	0.91	2.37	2.37	0.85	2.35	2.35	0.82
9	1.92	1.90	1.01	1.84	1.84	0.96	1.81	1.81	0.92
10	1.96	1.94	1.00	1.87	1.87	0.95	1.84	1.84	0.92
11	1.68	1.67	1.04	1.62	1.62	1.00	1.58	1.58	0.96
12	1.66	1.65	1.05	1.60	1.60	1.01	1.56	1.56	0.97
13	1.35	1.34	1.09	1.31	1.31	1.05	1.26	1.26	1.01
14	1.41	1.40	1.08	1.37	1.37	1.05	1.33	1.33	1.00
15	1.45	1.44	1.09	1.40	1.40	1.05	1.36	1.36	1.01
16	1.32	1.32	1.09	1.28	1.28	1.06	1.24	1.24	1.01
17	1.34	1.34	1.09	1.30	1.30	1.06	1.26	1.26	1.01
18	1.36	1.35	1.10	1.31	1.31	1.07	1.27	1.27	1.03
19	1.29	1.29	1.09	1.25	1.25	1.06	1.21	1.21	1.02
20	1.29	1.29	1.09	1.25	1.25	1.06	1.21	1.21	1.02
21	1.35	1.34	1.11	1.31	1.31	1.07	1.26	1.26	1.03
22	1.26	1.25	1.09	1.22	1.22	1.06	1.18	1.18	1.02
23	1.19	1.18	1.09	1.16	1.16	1.07	1.12	1.12	1.02
24	1.26	1.25	1.14	1.22	1.22	1.12	1.18	1.18	1.07
25	1.10	1.10	1.08	1.07	1.07	1.05	1.03	1.03	1.01
26	1.08	1.07	1.07	1.05	1.05	1.05	1.01	1.01	1.01
27	1.12	1.12	1.40	1.09	1.09	1.37	1.05	1.05	1.33
28	1.01	1.01	1.01	0.99	0.99	0.9	0.94	0.94	0.94
29	0.91	0.90	0.90	0.89	0.89	0.89	0.85	0.85	0.85
30	0.72	0.71	0.71	0.70	0.70	0.70	0.66	0.66	0.66
31	0.74	0.73	0.73	0.72	0.72	0.72	0.68	0.68	0.68
32	0.60	0.60	0.60	0.59	0.59	0.59	0.55	0.55	0.55
33	0.59	0.58	0.59	0.58	0.58	0.58	0.54	0.54	0.54
34	0.57	0.57	0.57	0.56	0.56	0.56	0.53	0.53	0.53
35	0.54	0.54	0.54	0.53	0.53	0.55	0.49	0.49	0.49
36	0.51	0.51	0.51	0.50	0.50	0.52	0.46	0.45	0.46

TABLE 2

(continued)

CONCENTRATION OF CONSERVATIVE MATERIAL (mg/l) FROM UNIT LOAD OF CONSERVATIVE MATERIAL (10,000 POUNDS/DAY)
- NO PROJECT -

1995

Response in Segment / Discharge: Segment:	Dry Season San Jose (103)	Dry Season Sunnyvale (122)	Dry Season Palo Alto (135)	Canning Season San Jose (103)	Canning Season Sunnyvale (122)	Canning Season Palo Alto (135)	Wet Season San Jose (103)	Wet Season Sunnyvale (122)	Wet Season Palo Alto (135)
37	0.58	0.58	0.58	0.57	0.57	0.57	0.53	0.53	0.53
38	0.55	0.55	0.55	0.55	0.55	0.55	0.51	0.51	0.51
39	0.39	0.39	0.39	0.39	0.39	0.39	0.35	0.35	0.35
40	0.45	0.45	0.45	0.44	0.44	0.44	0.40	0.40	0.40
41	0.57	0.57	0.57	0.56	0.56	0.56	0.52	0.52	0.52
42	0.52	0.52	0.52	0.52	0.52	0.52	0.49	0.49	0.49
43	0.35	0.35	0.35	0.34	0.34	0.34	0.30	0.30	0.30
44	0.39	0.39	0.39	0.39	0.39	0.39	0.35	0.35	0.35
45	0.50	0.50	0.50	0.49	0.49	0.49	0.45	0.45	0.45
46	0.44	0.44	0.44	0.43	0.43	0.43	0.39	0.39	0.39
47	0.32	0.32	0.32	0.32	0.32	0.32	0.28	0.28	0.28
48	0.35	0.35	0.35	0.35	0.35	0.35	0.31	0.31	0.31
49	0.50	0.50	0.50	0.49	0.49	0.49	0.45	0.45	0.45
50	0.43	0.43	0.43	0.42	0.42	0.42	0.38	0.38	0.38
51	0.31	0.31	0.31	0.31	0.31	0.31	0.27	0.27	0.27
52	0.32	0.32	0.32	0.32	0.32	0.32	0.28	0.28	0.28
53	0.50	0.50	0.50	0.49	0.49	0.49	0.45	0.45	0.45
54	0.45	0.45	0.45	0.45	0.45	0.45	0.40	0.40	0.40
55	0.30	0.30	0.30	0.30	0.30	0.30	0.26	0.26	0.26
56	0.30	0.30	0.30	0.30	0.30	0.30	0.26	0.26	0.26
57	0.57	0.57	0.57	0.56	0.56	0.56	0.50	0.50	0.50
58	0.60	0.60	0.60	0.59	0.59	0.59	0.52	0.52	0.52
59	0.29	0.29	0.29	0.29	0.29	0.29	0.25	0.25	0.25
60	0.28	0.28	0.28	0.27	0.27	0.27	0.24	0.24	0.24
61	0.57	0.57	0.57	0.56	0.56	0.56	0.49	0.49	0.49
62	0.31	0.31	0.31	0.30	0.30	0.30	0.27	0.27	0.27
63	0.29	0.29	0.29	0.28	0.28	0.28	0.25	0.25	0.25
64	0.24	0.24	0.24	0.24	0.24	0.24	0.21	0.21	0.21
65	0.54	0.54	0.54	0.53	0.53	0.53	0.47	0.47	0.47
66	0.39	0.39	0.39	0.39	0.39	0.39	0.34	0.34	0.34
67	0.27	0.27	0.27	0.27	0.27	0.27	0.23	0.23	0.23
68	0.22	0.22	0.22	0.22	0.22	0.22	0.19	0.19	0.19
69	0.48	0.48	0.48	0.47	0.47	0.47	0.42	0.42	0.42
70	0.38	0.38	0.38	0.38	0.38	0.38	0.34	0.34	0.34
71	0.19	0.19	0.19	0.19	0.19	0.19	0.16	0.16	0.16
72	0.17	0.17	0.17	0.17	0.17	0.17	0.15	0.15	0.15

TABLE 2

(continued)

CONCENTRATION OF CONSERVATIVE MATERIAL (mg/l) FROM UNIT LOAD OF CONSERVATIVE MATERIAL (10,000 POUNDS/DAY)
- NO PROJECT -
1995

	Dry Season			Canning Season			Wet Season		
Response in Segment / Discharge Segment:	San Jose (103)	Sunnyvale (122)	Palo Alto (135)	San Jose (103)	Sunnyvale (122)	Palo Alto (135)	San Jose (103)	Sunnyvale (122)	Palo Alto (135)
73	0.40	0.40	0.40	0.40	0.40	0.40	0.35	0.35	0.35
74	0.26	0.26	0.26	0.26	0.26	0.26	0.24	0.24	0.24
75	0.15	0.15	0.15	0.15	0.15	0.15	0.13	0.13	0.13
76	0.19	0.19	0.19	0.19	0.19	0.19	0.18	0.18	0.18
77	0.15	0.15	0.15	0.15	0.15	0.15	0.14	0.14	0.14
78	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.09	0.08
79	0.08	0.08	0.09	0.08	0.09	0.08	0.08	0.08	0.09
80	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
81	0.11	0.11	0.11	0.11	0.11	0.11	0.10	0.10	0.10
82	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
83	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
84	0.06	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05
85	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
86	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
87	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
88	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
89	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
90	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
91	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
92	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
98	8.99	0.24	0.09	7.11	0.12	0.04	0.01	0.00	0.00
99	8.99	0.24	0.09	7.11	0.12	0.04	0.37	0.00	0.00
100	8.99	0.24	0.09	7.11	0.12	0.04	2.71	0.06	0.02
101	8.99	0.24	0.09	7.11	0.12	0.04	5.03	0.12	0.04
102	8.99	0.24	0.09	7.11	0.12	0.04	7.01	0.17	0.06
103	9.67	0.00	0.00	7.27	0.00	0.00	9.24	0.00	0.00
104	9.67	0.00	0.00	7.27	0.00	0.00	9.24	0.00	0.00
105	9.67	0.00	0.00	7.27	0.00	0.00	9.24	0.00	0.00
106	9.71	0.00	0.00	7.27	0.00	0.00	9.27	0.00	0.00
107	9.67	0.00	0.00	7.27	0.00	0.00	9.24	0.00	0.00
108	9.67	0.00	0.00	7.27	0.00	0.00	9.24	0.00	0.00

TABLE 2

(continued)

CONCENTRATION OF CONSERVATIVE MATERIAL (mg/l) FROM UNIT LOAD OF CONSERVATIVE MATERIAL (10,000 POUNDS/DAY)
- NO PROJECT -

1995

Response in Segment / Discharge: Segment:	Dry Season			Canning Season			Wet Season		
	San Jose (103)	Sunnyvale (122)	Palo Alto (135)	San Jose (103)	Sunnyvale (122)	Palo Alto (135)	San Jose (103)	Sunnyvale (122)	Palo Alto (135)
109	9.67	0.00	0.00	7.27	0.00	0.00	9.24	0.00	0.00
110	9.70	0.00	0.00	7.27	0.00	0.00	9.26	0.00	0.00
111	9.46	0.03	0.01	7.26	0.00	0.00	9.08	0.03	0.01
112	9.31	0.12	0.04	7.20	0.05	0.01	8.74	0.10	0.03
113	6.67	1.03	0.39	5.74	0.79	0.28	3.86	0.56	0.19
114	6.67	1.03	0.38	5.74	0.79	0.28	5.13	0.75	0.26
115	6.67	1.03	0.38	5.74	0.79	0.28	5.71	0.84	0.29
116	6.67	1.03	0.38	5.74	0.79	0.28	5.92	0.87	0.30
117	6.67	1.03	0.38	5.74	0.79	0.28	6.06	0.89	0.31
118	3.60	2.10	0.77	3.34	1.92	0.69	1.88	1.08	0.38
119	3.60	2.10	0.77	3.34	1.92	0.69	2.79	1.61	0.56
120	3.60	2.10	0.77	3.34	1.92	0.69	3.21	1.95	0.65
121	0.08	47.46	0.03	0.02	39.61	0.01	0.01	16.14	0.00
122	0.08	47.46	0.03	0.02	39.61	0.01	0.02	39.19	0.00
123	0.41	41.99	0.15	0.23	36.42	0.08	0.22	36.38	0.08
124	1.16	27.61	0.42	0.91	25.66	0.32	0.89	25.51	0.31
125	1.92	13.69	0.79	1.70	13.30	0.61	1.66	13.23	0.58
126	1.32	1.32	1.09	1.28	1.29	1.06	0.53	0.53	0.44
127	1.32	1.32	1.09	1.28	1.28	1.06	1.09	1.09	0.89
128	1.32	1.32	1.09	1.28	1.26	1.06	1.21	1.21	0.99
129	1.26	1.26	1.09	1.23	1.23	1.06	0.06	0.06	0.05
130	1.26	1.26	1.09	1.23	1.23	1.06	0.41	0.41	0.36
131	1.26	1.26	1.09	1.23	1.23	1.06	0.73	0.73	0.65
132	1.26	1.26	1.09	1.23	1.23	1.06	1.02	1.02	0.88
133	1.26	1.26	1.09	1.23	1.23	1.06	1.14	1.14	0.99
134	1.26	1.26	1.09	1.23	1.23	1.06	1.16	1.16	1.00
135	0.89	0.88	9.50	0.87	0.87	9.48	0.79	0.79	9.21
136	0.96	0.96	6.99	0.94	0.94	6.97	0.87	0.87	6.81
137	1.03	1.02	4.73	1.00	1.00	4.71	0.94	0.94	4.62
138	1.08	1.07	3.12	1.05	1.05	3.10	1.00	1.00	3.04
139	1.11	1.10	2.01	1.08	1.08	1.99	1.03	1.03	1.94
140	1.46	1.45	1.09	1.41	1.41	1.06	1.27	1.27	0.94
141	1.46	1.45	1.09	1.41	1.41	1.06	1.34	1.34	0.99

TABLE 3

CONCENTRATION OF CONSERVATIVE MATERIAL (mg/l) FROM UNIT LOAD OF CONSERVATIVE MATERIAL (10,000 POUNDS/DAY)
- 1985 and 1995 -

	Deep Water Discharge				DP 31 Discharge	
	Dry and Canning Seasons		Wet Season		Dry & Canning Seasons	Wet Season
Response in Segment / Discharge: Segment:	San Jose/ Sunnyvale (9)	Palo Alto (14)	San Jose/ Sunnyvale (9)	Palo Alto (14)	San Jose/ Sunnyvale/ Palo Alto (31)	San Jose/ Sunnyvale/ Palo Alto (31)
1	2.04	1.41	1.47	1.00	0.81	0.53
2	2.02	1.40	1.58	1.07	0.81	0.57
3	2.01	1.39	1.65	1.12	0.80	0.60
4	2.00	1.38	1.71	1.16	0.80	0.62
5	1.99	1.37	1.76	1.19	0.79	0.64
6	1.98	1.37	1.79	1.22	0.79	0.65
7	1.97	1.36	1.83	1.24	0.78	0.66
8	1.96	1.35	1.84	1.25	0.78	0.67
9	2.04	1.33	1.97	1.26	0.78	0.68
10	1.90	1.35	1.82	1.28	0.78	0.68
11	1.73	1.39	1.66	1.32	0.78	0.69
12	1.68	1.38	1.60	1.31	0.78	0.68
13	1.57	1.41	1.30	1.34	0.77	0.69
14	1.43	1.50	1.37	1.44	0.77	0.69
15	1.47	1.37	1.40	1.30	0.77	0.69
16	1.35	1.38	1.28	1.31	0.77	0.69
17	1.36	1.39	1.30	1.33	0.77	0.69
18	1.38	1.34	1.31	1.27	0.77	0.69
19	1.31	1.33	1.25	1.27	0.77	0.69
20	1.31	1.32	1.25	1.26	0.77	0.69
21	1.37	1.33	1.30	1.26	0.77	0.69
22	1.28	1.39	1.22	1.23	0.77	0.69
23	1.21	1.21	1.15	1.15	0.77	0.69
24	1.29	1.26	1.22	1.20	0.77	0.69
25	1.12	1.12	1.06	1.07	0.77	0.6
26	1.10	1.10	1.04	1.04	0.77	0.70
27	1.15	1.15	1.09	1.09	0.77	0.69
28	1.03	1.03	0.97	0.97	0.77	0.70
29	0.92	0.92	0.87	0.87	0.77	0.70
30	0.72	0.72	0.68	0.68	0.74	0.68
31	0.75	0.75	0.70	0.70	0.76	0.71
32	0.61	0.61	0.56	0.56	0.62	0.57
33	0.59	0.59	0.55	0.55	0.60	0.55
34	0.59	0.59	0.54	0.54	0.59	0.54
35	0.54	0.54	0.50	0.50	0.55	0.50
36	0.52	0.52	0.47	0.47	0.52	0.47

TABLE 3

(continued)

CONCENTRATION OF CONSERVATIVE MATERIAL (mg/l) FROM UNIT LOAD OF CONSERVATIVE MATERIAL (10,000 POUNDS/DAY)

- 1985 and 1995 -

Response in Segment / Discharge: Segment:	Deep Water Discharge: Dry and Canning Seasons: San Jose/ Sunnyvale (9)	Deep Water Discharge: Dry and Canning Seasons: Palo Alto (14)	Deep Water Discharge: Wet Season: San Jose/ Sunnyvale (9)	Deep Water Discharge: Wet Season: Palo Alto (14)	DP 31 Discharge: Dry & Canning Seasons San Jose/ Sunnyvale/ Palo Alto (31)	DP 31 Discharge: Wet Season San Jose/ Sunnyvale/ Palo Alto (31)
37	0.59	0.59	0.54	0.54	0.60	0.55
38	0.56	0.56	0.52	0.52	0.57	0.52
39	0.40	0.40	0.35	0.35	0.40	0.36
40	0.46	0.46	0.41	0.41	0.46	0.41
41	0.59	0.59	0.53	0.53	0.59	0.54
42	0.53	0.53	0.49	0.49	0.54	0.49
43	0.35	0.35	0.31	0.31	0.36	0.31
44	0.40	0.40	0.36	0.36	0.41	0.36
45	0.51	0.51	0.46	0.46	0.52	0.46
46	0.44	0.44	0.39	0.39	0.45	0.40
47	0.33	0.33	0.28	0.28	0.33	0.28
48	0.36	0.36	0.31	0.31	0.36	0.32
49	0.51	0.51	0.46	0.46	0.51	0.45
50	0.44	0.44	0.39	0.39	0.44	0.39
51	0.32	0.32	0.28	0.28	0.32	0.28
52	0.33	0.33	0.29	0.29	0.33	0.29
53	0.50	0.50	0.45	0.45	0.51	0.46
54	0.46	0.46	0.41	0.41	0.47	0.41
55	0.31	0.31	0.27	0.27	0.31	0.27
56	0.31	0.31	0.27	0.27	0.31	0.27
57	0.58	0.58	0.51	0.51	0.59	0.51
58	0.61	0.61	0.53	0.53	0.62	0.54
59	0.30	0.30	0.26	0.26	0.30	0.26
60	0.28	0.28	0.24	0.24	0.28	0.24
61	0.58	0.59	0.50	0.50	0.58	0.5
62	0.31	0.31	0.27	0.27	0.32	0.27
63	0.29	0.29	0.25	0.25	0.30	0.25
64	0.24	0.24	0.21	0.21	0.25	0.21
65	0.54	0.54	0.48	0.48	0.55	0.48
66	0.40	0.40	0.35	0.35	0.40	0.35
67	0.27	0.27	0.24	0.24	0.29	0.24
68	0.23	0.23	0.20	0.20	0.23	0.20
69	0.49	0.49	0.43	0.43	0.49	0.43
70	0.39	0.39	0.34	0.34	0.39	0.35
71	0.19	0.19	0.17	0.17	0.19	0.17
72	0.17	0.17	0.15	0.15	0.17	0.15

TABLE 3

CONCENTRATION OF CONSERVATIVE MATERIAL (mg/l) FROM UNIT LOAD OF CONSERVATIVE MATERIAL (10,000 POUNDS/DAY)

- 1985 and 1995 -

Response in Segment / Discharge: Segment:	Deep Water Discharge				DP 31 Discharge	
	Dry and Canning Seasons		Wet Season		Dry & Canning Seasons	Wet Season
	San Jose/ Sunnyvale (9)	Palo Alto (14)	San Jose/ Sunnyvale (9)	Palo Alto (14)	San Jose/ Sunnyvale/ Palo Alto (31)	San Jose/ Sunnyvale/ Palo Alto (31)
73	0.40	0.40	0.36	0.36	0.41	0.36
74	0.26	0.26	0.24	0.24	0.26	0.24
75	0.15	0.15	0.13	0.13	0.15	0.13
76	0.19	0.19	0.19	0.18	0.19	0.18
77	0.15	0.15	0.14	0.14	0.15	0.14
78	0.08	0.08	0.09	0.08	0.08	0.09
79	0.08	0.08	0.09	0.08	0.08	0.09
80	0.14	0.14	0.14	0.14	0.15	0.14
81	0.11	0.11	0.10	0.10	0.11	0.10
82	0.07	0.07	0.07	0.07	0.07	0.07
83	0.07	0.07	0.07	0.07	0.07	0.07
84	0.06	0.06	0.05	0.05	0.06	0.05
85	0.05	0.05	0.05	0.05	0.05	0.05
86	0.05	0.05	0.05	0.05	0.05	0.05
87	0.02	0.02	0.02	0.02	0.02	0.02
88	0.04	0.04	0.04	0.04	0.04	0.04
89	0.03	0.03	0.03	0.03	0.03	0.03
90	0.02	0.02	0.02	0.02	0.02	0.02
91	0.02	0.02	0.02	0.02	0.02	0.02
92	0.01	0.01	0.01	0.01	0.01	0.01
93	0.00	0.00	0.00	0.00	0.00	0.00
94	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.00	0.00	0.00
96	0.00	0.00	0.00	0.00	0.00	0.00
97	0.00	0.00	0.00	0.00	0.00	0.00
98	2.08	1.41	0.00	0.00	0.82	0.00
99	2.08	1.41	0.06	0.04	0.82	0.02
100	2.08	1.41	0.48	0.33	0.82	0.17
101	2.08	1.41	0.99	0.61	0.82	0.32
102	2.08	1.41	1.25	0.85	0.82	0.45
103	2.04	1.41	0.01	0.00	0.82	0.00
104	2.04	1.41	0.06	0.04	0.82	0.02
105	2.04	1.41	0.45	0.30	0.82	0.16
106	2.04	1.41	0.79	0.53	0.82	0.28
107	2.04	1.41	0.96	0.65	0.82	0.35
108	2.04	1.41	1.06	0.72	0.82	0.38

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TABLE 3

(continued)

CONCENTRATION OF CONSERVATIVE MATERIAL (mg/l) FROM UNIT LOAD OF CONSERVATIVE MATERIAL (10,000 POUNDS/DAY)

- 1985 and 1995 -

	Deep Water Discharge				DP 31 Discharge	
	Dry and Canning Seasons		Wet Season		Dry & Canning Seasons	Wet Season
Response in Segment / Discharge: Segment:	San Jose/ Sunnyvale (9)	Palo Alto (14)	San Jose/ Sunnyvale (9)	Palo Alto (14)	San Jose/ Sunnyvale/ Palo Alto (31)	San Jose/ Sunnyvale/ Palo Alto (31)
109	2.04	1.41	1.16	0.79	0.82	0.42
110	2.04	1.41	1.26	0.86	0.82	0.46
111	2.04	1.41	1.36	0.92	0.82	0.49
112	2.04	1.41	1.42	0.97	0.82	0.51
113	2.01	1.39	1.03	0.70	0.80	0.37
114	2.01	1.39	1.37	0.93	0.80	0.50
115	2.01	1.39	1.52	1.04	0.80	0.55
116	2.01	1.39	1.58	1.07	0.80	0.57
117	2.01	1.39	1.62	1.10	0.80	0.59
118	1.98	1.37	0.99	0.68	0.79	0.36
119	1.98	1.37	1.48	1.01	0.79	0.54
120	1.98	1.37	1.70	1.16	0.79	0.62
121	1.98	1.36	0.36	0.24	0.79	0.13
122	1.98	1.36	0.88	0.60	0.79	0.32
123	1.98	1.36	1.22	0.83	0.79	0.44
124	1.98	1.36	1.54	1.04	0.79	0.56
125	1.98	1.36	1.73	1.17	0.79	0.63
126	1.38	1.39	0.55	0.56	0.77	0.30
127	1.38	1.38	1.12	1.15	0.77	0.60
128	1.38	1.39	1.24	1.27	0.77	0.67
129	1.29	1.30	0.07	0.07	0.77	0.04
130	1.29	1.30	0.43	0.43	0.77	0.24
131	1.29	1.30	0.76	0.77	0.77	0.43
132	1.29	1.30	1.05	1.07	0.77	0.60
133	1.29	1.30	1.17	1.19	0.77	0.66
134	1.29	1.30	1.20	1.22	0.77	0.68
135	1.15	1.15	1.04	1.04	0.77	0.66
136	1.15	1.15	1.06	1.05	0.77	0.67
137	1.15	1.15	1.07	1.07	0.77	0.68
138	1.15	1.15	1.08	1.08	0.77	0.69
139	1.15	1.15	1.09	1.08	0.77	0.69
140	1.48	1.38	1.30	1.22	0.78	0.64
141	1.48	1.39	1.38	1.28	0.78	0.67

TABLE 4

DISSOLVED OXYGEN DEFICIT (mg/l) FROM LOAD OF ULTIMATE OXYGEN DEMAND (10,000 POUNDS/DAY)

- NO PROJECT -

1985

Response Discharge: Segment: Segment:	Dry Season			Canning Season			Wet Season		
	San Jose (103)	Sunnyvale (122)	Palo Alto (135)	San Jose (103)	Sunnyvale (122)	Palo Alto (135)	San Jose (103)	Sunnyvale (122)	Palo Alto (135)
1	0.84	0.00	0.00	0.71	0.00	0.00	0.74	0.00	0.00
2	0.67	0.00	0.00	0.63	0.00	0.00	0.65	0.00	0.00
3	0.42	0.00	0.00	0.42	0.00	0.00	0.45	0.01	0.00
4	0.29	0.00	0.00	0.31	0.00	0.00	0.34	0.01	0.00
5	0.20	0.01	0.00	0.21	0.01	0.00	0.24	0.02	0.01
6	0.12	0.02	0.01	0.13	0.02	0.01	0.16	0.03	0.01
7	0.07	0.03	0.01	0.08	0.04	0.01	0.10	0.05	0.02
8	0.06	0.03	0.02	0.07	0.04	0.02	0.08	0.06	0.03
9	0.03	0.02	0.03	0.04	0.02	0.03	0.05	0.04	0.04
10	0.03	0.02	0.03	0.04	0.02	0.03	0.05	0.04	0.04
11	0.02	0.01	0.04	0.03	0.02	0.04	0.04	0.03	0.05
12	0.02	0.01	0.04	0.03	0.01	0.04	0.04	0.02	0.05
13	0.01	0.00	0.05	0.01	0.01	0.05	0.02	0.01	0.06
14	0.01	0.00	0.05	0.02	0.01	0.05	0.03	0.01	0.06
15	0.01	0.00	0.05	0.02	0.01	0.05	0.03	0.02	0.06
16	0.01	0.00	0.06	0.01	0.01	0.06	0.02	0.01	0.07
17	0.01	0.00	0.06	0.01	0.01	0.06	0.02	0.01	0.07
18	0.01	0.00	0.06	0.01	0.01	0.06	0.02	0.01	0.07
19	0.01	0.00	0.06	0.01	0.01	0.06	0.02	0.01	0.07
20	0.01	0.00	0.07	0.01	0.01	0.07	0.02	0.01	0.08
21	0.01	0.00	0.06	0.01	0.01	0.06	0.02	0.01	0.07
22	0.01	0.00	0.07	0.01	0.00	0.07	0.02	0.01	0.08
23	0.01	0.00	0.08	0.01	0.00	0.08	0.02	0.01	0.09
24	0.01	0.00	0.08	0.01	0.00	0.08	0.02	0.01	0.09
25	0.01	0.00	0.09	0.01	0.00	0.09	0.02	0.01	0.10
26	0.01	0.00	0.09	0.01	0.00	0.09	0.02	0.01	0.10
27	0.01	0.00	0.14	0.01	0.00	0.14	0.02	0.01	0.14
28	0.01	0.00	0.09	0.01	0.00	0.09	0.02	0.01	0.10
29	0.01	0.00	0.08	0.01	0.00	0.08	0.02	0.01	0.09
30	0.00	0.00	0.06	0.00	0.00	0.06	0.01	0.00	0.06
31	0.00	0.00	0.06	0.00	0.00	0.06	0.01	0.00	0.07
32	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.04
33	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.04
34	0.00	0.00	0.04	0.00	0.00	0.04	0.01	0.00	0.04
35	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.04
36	0.00	0.00	0.02	0.00	0.00	0.02	0.00	0.00	0.03

TABLE 4

(continued)

DISSOLVED OXYGEN DEFICIT (mg/l) FROM LOAD OF ULTIMATE OXYGEN DEMAND (10,000 POUNDS/DAY)

- NO PROJECT -

1985

Response Segment / Discharge Segment:	Dry Season San Jose (103)	Dry Season Sunnyvale (122)	Dry Season Palo Alto (135)	Canning Season San Jose (103)	Canning Season Sunnyvale (122)	Canning Season Palo Alto (135)	Wet Season San Jose (102)	Wet Season Sunnyvale (122)	Wet Season Palo Alto (135)
37	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.04
38	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.04
39	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01
40	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.02
41	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.03
42	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.03
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
44	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01
45	0.00	0.00	0.02	0.00	0.00	0.02	0.00	0.00	0.02
46	0.00	0.00	0.02	0.00	0.00	0.02	0.00	0.00	0.02
47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.02
50	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.02
51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.02
54	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.02
55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01
58	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.02
59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

TABLE 4

DISSOLVED OXYGEN DEFICIT (mg/l) FROM LOAD OF ULTIMATE OXYGEN DEMAND (10,000 POUNDS/DAY)

- NO PROJECT -

1985

	Dry Season			Canning Season			Wet Season		
Response Segment / Discharge: Segment:	San Jose (103)	Sunnyvale (122)	Palo Alto (135)	San Jose (103)	Sunnyvale (122)	Palo Alto (135)	San Jose (102)	Sunnyvale (122)	Palo Alto (135)
73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
98	0.18	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00
99	0.31	0.00	0.00	0.29	0.00	0.00	0.02	0.00	0.00
100	0.40	0.00	0.00	0.44	0.00	0.00	0.20	0.00	0.00
101	0.62	0.00	0.00	0.56	0.00	0.00	0.43	0.00	0.00
102	0.78	0.00	0.00	0.69	0.00	0.00	0.66	0.00	0.00
103	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
104	0.04	0.00	0.00	0.02	0.00	0.00	0.02	0.00	0.00
105	0.08	0.00	0.00	0.05	0.00	0.00	0.03	0.00	0.00
106	0.12	0.00	0.00	0.19	0.00	0.00	0.10	0.00	0.00
107	0.23	0.00	0.00	0.21	0.00	0.00	0.23	0.00	0.00
108	0.49	0.00	0.00	0.30	0.00	0.00	0.32	0.00	0.00

TABLE 4

DISSOLVED OXYGEN DEFICIT (mg/l) FROM LOAD OF ULTIMATE OXYGEN DEMAND (10,000 POUNDS/DAY)

- NO PROJECT -

1985

Response Segment / Discharge Segment:	Dry Season San Jose (103)	Dry Season Sunnyvale (122)	Dry Season Palo Alto (135)	Canning Season San Jose (103)	Canning Season Sunnyvale (122)	Canning Season Palo Alto (135)	Wet Season San Jose (102)	Wet Season Sunnyvale (122)	Wet Season Palo Alto (135)
109	0.66	0.00	0.00	0.39	0.00	0.00	0.44	0.00	0.00
110	0.79	0.00	0.00	0.49	0.00	0.00	0.55	0.00	0.00
111	0.89	0.00	0.00	0.61	0.00	0.00	0.67	0.00	0.00
112	0.92	0.00	0.00	0.71	0.00	0.00	0.75	0.00	0.00
113	0.24	0.00	0.00	0.25	0.00	0.00	0.19	0.00	0.00
114	0.27	0.00	0.00	0.28	0.00	0.00	0.28	0.00	0.00
115	0.30	0.00	0.00	0.31	0.00	0.00	0.33	0.00	0.00
116	0.33	0.00	0.00	0.34	0.00	0.00	0.37	0.00	0.00
117	0.37	0.00	0.00	0.37	0.00	0.00	0.41	0.00	0.00
118	0.02	0.00	0.00	0.02	0.00	0.00	0.02	0.00	0.00
119	0.04	0.00	0.00	0.05	0.00	0.00	0.06	0.01	0.00
120	0.09	0.01	0.00	0.10	0.01	0.00	0.12	0.02	0.01
121	0.00	2.15	0.00	0.00	1.86	0.00	0.00	1.09	0.00
122	0.00	4.48	0.00	0.00	3.70	0.00	0.00	4.09	0.00
123	0.00	3.11	0.00	0.00	3.06	0.00	0.00	3.50	0.00
124	0.01	1.72	0.00	0.01	1.92	0.00	0.02	2.30	0.00
125	0.03	0.57	0.01	0.04	0.70	0.01	0.05	0.97	0.01
126	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01
128	0.00	0.00	0.02	0.00	0.00	0.02	0.01	0.00	0.03
129	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
131	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
132	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.02
133	0.00	0.00	0.03	0.00	0.00	0.03	0.01	0.00	0.04
134	0.01	0.00	0.05	0.01	0.00	0.05	0.02	0.01	0.06
135	0.00	0.00	0.94	0.00	0.00	0.94	0.01	0.00	0.82
136	0.00	0.00	0.83	0.00	0.00	0.83	0.01	0.00	0.73
137	0.00	0.00	0.61	0.01	0.00	0.61	0.01	0.01	0.55
138	0.01	0.00	0.41	0.01	0.00	0.41	0.01	0.01	0.36
139	0.01	0.00	0.24	0.01	0.00	0.24	0.02	0.01	0.23
140	0.01	0.00	0.05	0.01	0.00	0.05	0.01	0.01	0.03
141	0.01	0.00	0.04	0.01	0.01	0.04	0.02	0.01	0.05

TABLE 5

DISSOLVED OXYGEN DEFICIT (mg/l) FROM UNIT LOAD OF DISSOLVED OXYGEN DEFICIT (1,000 POUNDS/DAY)

- NO PROJECT -

1985

Response / Discharge: Segment Segment:	Dry Season			Canning Season			Wet Season		
	San Jose (103)	Sunnyvale (122)	Palo Alto (135)	San Jose (103)	Sunnyvale (122)	Palo Alto (135)	San Jose (102)	Sunnyvale (122)	Palo Alto (135)
1	0.10	0.00	0.00	0.11	0.00	0.00	0.13	0.00	0.00
2	0.04	0.00	0.00	0.05	0.00	0.00	0.06	0.00	0.00
3	0.01	0.00	0.00	0.02	0.00	0.00	0.02	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

TABLE 5
(continued)

DISSOLVED OXYGEN DEFICIT (mg/l) FROM UNIT LOAD OF DISSOLVED OXYGEN DEFICIT (1,000 POUNDS/DAY)

- NO PROJECT -

1985

Response Segment / Discharge: Segment:	Dry Season			Canning Season			Wet Season		
	San Jose (103)	Sunnyvale (122)	Palo Alto (135)	San Jose (103)	Sunnyvale (122)	Palo Altc (135)	San Jose (102)	Sunnyvale (122)	Palo Alto (135)
37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

TABLE 5
(continued)

DISSOLVED OXYGEN DEFICIT (mg/l) FROM UNIT LOAD OF DISSOLVED OXYGEN DEFICIT (1,000 POUNDS/DAY)

- NO PROJECT -

1985

Response Segment / Discharge Segment:	Dry Season San Jose (103)	Dry Season Sunnyvale (122)	Dry Season Palo Alto (135)	Canning Season San Jose (103)	Canning Season Sunnyvale (122)	Canning Season Palo Alto (135)	Wet Season San Jose (102)	Wet Season Sunnyvale (122)	Wet Season Palo Alto (135)
73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
101	0.01	0.00	0.00	0.02	0.00	0.00	0.02	0.00	0.00
102	0.08	0.00	0.00	0.04	0.00	0.00	0.05	0.00	0.00
103	1.11	0.00	0.00	0.93	0.00	0.00	1.01	0.00	0.00
104	1.09	0.00	0.00	0.92	0.00	0.00	1.00	0.00	0.00
105	1.08	0.00	0.00	0.82	0.00	0.00	0.99	0.00	0.00
106	0.99	0.00	0.00	0.76	0.00	0.00	0.92	0.00	0.00
107	0.84	0.00	0.00	0.66	0.00	0.00	0.80	0.00	0.00
108	0.70	0.00	0.00	0.58	0.00	0.00	0.71	0.00	0.00

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TABLE 5

(continued)

DISSOLVED OXYGEN DEFICIT (mg/l) FROM UNIT LOAD OF DISSOLVED OXYGEN DEFICIT (1,000 POUNDS/DAY)

- NO PROJECT -

1985

Response / Discharge:	Dry Season			Canning Season			Wet Season		
Segment / Segment:	San Jose (103)	Sunnyvale (122)	Palo Alto (135)	San Jose (103)	Sunnyvale (122)	Palo Alto (135)	San Jose (102)	Sunnyvale (122)	Palo Alto (135)
109	0.98	0.00	0.00	0.52	0.00	0.00	0.62	0.00	0.00
110	0.68	0.00	0.00	0.45	0.00	0.00	0.53	0.00	0.00
111	0.38	0.00	0.00	0.36	0.00	0.00	0.41	0.00	0.00
112	0.71	0.00	0.00	0.24	0.00	0.0	0.27	0.00	0.00
113	0.0	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
114	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
116	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
117	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00
118	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
119	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
121	0.00	0.11	0.00	0.00	0.11	0.00	0.00	0.00	0.00
122	0.00	1.07	0.00	0.00	1.07	0.00	0.00	1.21	0.00
123	0.00	0.21	0.00	0.00	0.20	0.00	0.00	0.30	0.00
124	0.00	0.04	0.00	0.00	0.03	0.00	0.00	0.37	0.00
125	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00
126	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
128	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
129	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00
131	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
132	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
133	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00
134	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135	0.00	0.00	1.44	0.00	0.00	0.44	0.00	0.00	0.47
136	0.00	0.07	0.25	0.00	0.00	0.25	0.00	0.00	0.20
137	0.00	0.00	0.13	0.00	0.00	0.13	0.00	0.00	0.15
138	0.00	0.00	0.07	0.00	0.00	0.07	0.00	0.00	0.00
139	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.04
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
141	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

TABLE 6

DISSOLVED OXYGEN DEFICIT (mg/l) FROM UNIT LOAD OF ULTIMATE OXYGEN DEMAND (10,000 POUNDS/DAY)

- NO PROJECT -

1995

Response Segment / Discharge Segment:	Dry Season San Jose (103)	Dry Season Sunnyvale (122)	Dry Season Palo Al. (135)	Canning Season San Jose (103)	Canning Season Sunnyvale (122)	Canning Season Palo Alto (135)	Wet Season San Jose (102)	Wet Season Sunnyvale (122)	Wet Season Palo Alto (135)
1	0.78	0.00	0.00	0.64	0.00	0.00	0.70	0.00	0.00
2	0.65	0.00	0.00	0.60	0.00	0.00	0.63	0.00	0.00
3	0.43	0.00	0.00	0.41	0.00	0.0	0.44	0.01	0.00
4	0.30	0.00	0.00	0.31	0.00	0.00	0.34	0.01	0.00
5	0.20	0.01	0.00	0.22	0.01	0.00	0.24	0.02	0.00
6	0.13	0.02	0.01	0.14	0.02	0.0	0.16	0.04	0.01
7	0.08	0.04	0.01	0.09	0.04	0.01	0.11	0.06	0.02
8	0.06	0.04	0.02	0.07	0.05	0.02	0.09	0.07	0.02
9	0.04	0.02	0.03	0.04	0.03	0.03	0.05	0.04	0.04
10	0.04	0.02	0.03	0.04	0.03	0.03	0.06	0.04	0.04
11	0.03	0.02	0.04	0.03	0.02	0.04	0.04	0.03	0.05
12	0.02	0.01	0.04	0.03	0.02	0.04	0.04	0.03	0.05
13	0.01	0.01	0.05	0.01	0.01	0.05	0.02	0.02	0.06
14	0.01	0.01	0.05	0.02	0.01	0.05	0.03	0.0	0.06
15	0.01	0.01	0.05	0.02	0.01	0.05	0.03	0.02	0.06
16	0.01	0.01	0.06	0.01	0.01	0.06	0.02	0.02	0.07
17	0.01	0.01	0.06	0.02	0.01	0.06	0.02	0.02	0.07
18	0.01	0.01	0.06	0.01	0.01	0.06	0.02	0.02	0.07
19	0.01	0.01	0.06	0.01	0.01	0.06	0.02	0.02	0.07
20	0.01	0.01	0.07	0.01	0.01	0.07	0.02	0.02	0.08
21	0.01	0.01	0.06	0.01	0.01	0.06	0.02	0.02	0.07
22	0.01	0.00	0.07	0.01	0.01	0.07	0.02	0.02	0.08
23	0.01	0.00	0.08	0.01	0.01	0.08	0.02	0.01	0.09
24	0.01	0.00	0.08	0.01	0.01	0.09	0.02	0.01	0.08
25	0.01	0.00	0.09	0.01	0.01	0.09	0.02	0.01	0.10
26	0.01	0.00	0.09	0.01	0.01	0.09	0.02	0.01	0.10
27	0.01	0.00	0.14	0.01	0.01	0.14	0.02	0.01	0.14
28	0.01	0.00	0.09	0.01	0.01	0.09	0.02	0.01	0.10
29	0.01	0.00	0.08	0.01	0.00	0.08	0.02	0.01	0.09
30	0.00	0.00	0.06	0.01	0.00	0.06	0.01	0.01	0.06
31	0.00	0.00	0.06	0.01	0.00	0.06	0.01	0.01	0.07
32	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.04
33	0.00	0.00	0.03	0.00	0.00	0.04	0.01	0.00	0.04
34	0.00	0.00	0.04	0.00	0.00	0.04	0.01	0.00	0.04
35	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.04
36	0.00	0.00	0.02	0.00	0.00	0.02	0.00	0.00	0.03

TABLE 6
(continued)

DISSOLVED OXYGEN DEFICIT (mg/l) FROM UNIT LOAD OF ULTIMATE OXYGEN DEMAND (10,000 POUNDS/DAY)

- NO PROJECT -

1995

Response Segment / Discharge Segment:	Dry Season San Jose (103)	Dry Season Sunnyvale (122)	Dry Season Palo Alto (135)	Canning Season San Jose (103)	Canning Season Sunnyvale (122)	Canning Season Palo Alto (135)	Wet Season San Jose (102)	Wet Season Sunnyvale (122)	Wet Season Palo Alto (135)
37	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.04
38	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.04
39	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01
40	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.02
41	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.03
42	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.03
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
44	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01
45	0.00	0.00	0.02	0.00	0.00	0.02	0.00	0.00	0.02
46	0.00	0.00	0.02	0.00	0.00	0.02	0.00	0.00	0.02
47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.02
50	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.02
51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.02
54	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.02
55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01
58	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.02
59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

TABLE 6
(continued)

DISSOLVED OXYGEN DEFICIT (mg/l) FROM UNIT LOAD OF ULTIMATE OXYGEN DEMAND (10,000 POUNDS/DAY)

- NO PROJECT -

1995

Response Segment / Discharge Segment:	Dry Season San Jose (103)	Dry Season Sunnyvale (122)	Dry Season Palo Alto (135)	Canning Season San Jose (103)	Canning Season Sunnyvale (122)	Canning Season Palo Alto (135)	Wet Season San Jose (102)	Wet Season Sunnyvale (122)	Wet Season Palo Alto (135)
73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
98	0.17	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00
99	0.30	0.00	0.00	0.27	0.00	0.00	0.02	0.00	0.00
100	0.47	0.00	0.00	0.42	0.00	0.00	0.19	0.00	0.00
101	0.60	0.00	0.00	0.53	0.00	0.00	0.41	0.00	0.00
102	0.76	0.00	0.00	0.64	0.00	0.00	0.63	0.00	0.00
103	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
104	0.02	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.00
105	0.06	0.00	0.00	0.02	0.00	0.00	0.03	0.00	0.00
106	0.12	0.00	0.00	0.07	0.00	0.00	0.09	0.00	0.00
107	0.27	0.00	0.00	0.16	0.00	0.00	0.19	0.00	0.00
108	0.37	0.00	0.00	0.24	0.00	0.00	0.28	0.00	0.00

TABLE 6
(continued)

DISSOLVED OXYGEN DEFICIT (mg/ FROM UNIT LOAD OF ULTIMATE OXYGEN DEMAND (10,000 POUNDS/DAY)

- NO PROJECT -

1995

Response/Discharge: Segment Segment:	Dry Season San Jose (103)	Dry Season Sunnyvale (122)	Dry Season Palo Alto (135)	Canning Season San Jose (103)	Canning Season Sunnyvale (122)	Canning Season Palo Alto (135)	Wet Season San Jose (102)	Wet Season Sunnyvale (122)	Wet Season Palo Alto (135)
109	0.41	0.00	0.00	0.32	0.00	0.00	0.37	0.00	0.00
110	0.63	0.00	0.00	0.40	0.00	0.90	0.47	0.00	0.00
111	0.79	0.00	0.00	0.48	0.00	0.00	0.58	0.00	0.00
112	0.41	0.00	0.00	0.60	0.00	0.00	0.68	0.00	0.00
113	0.24	0.00	0.00	0.25	0.30	0.00	0.19	0.00	0.00
114	0.27	0.00	0.00	0.28	0.00	0.00	0.28	0.00	0.00
115	0.30	0.00	0.00	0.31	0.00	0.00	0.33	0.00	0.00
116	0.34	0.00	0.00	0.34	0.00	0.0	0.37	0.00	0.09
117	0.37	0.00	0.00	0.37	0.00	0.00	0.40	0.00	0.00
118	0.02	0.00	0.00	0.02	0.00	0.00	0.02	0.00	0.00
119	0.04	0.00	0.00	0.05	0.00	0.00	0.06	0.01	0.00
120	0.09	0.01	0.30	0.10	0.01	0.00	0.13	0.03	0.01
121	0.00	1.86	0.00	0.00	1.70	0.00	0.00	0.92	0.00
122	0.00	3.70	0.00	0.00	3.20	0.00	0.00	3.26	0.00
123	0.00	3.06	0.00	0.00	2.96	0.00	0.00	3.26	0.00
124	0.01	1.92	0.00	0.01	2.03	0.00	0.02	2.92	0.00
125	0.03	0.70	0.01	0.04	0.70	0.01	0.05	1.00	0.01
126	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01
128	0.00	0.00	0.02	0.00	0.00	0.02	0.01	0.01	0.03
129	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
131	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00
132	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.02
133	0.00	0.00	0.03	0.00	0.00	0.03	0.01	0.01	0.04
134	0.01	0.00	0.05	0.01	0.00	0.05	0.02	0.01	0.06
135	0.00	0.00	0.94	0.00	0.00	0.94	0.01	0.00	0.82
136	0.00	0.00	0.83	0.00	0.00	0.83	0.01	0.01	0.73
137	0.00	0.00	0.61	0.01	0.00	0.61	0.01	0.01	0.55
138	0.01	0.00	0.41	0.01	0.00	0.41	0.02	0.01	0.38
139	0.01	0.00	0.24	0.01	0.00	0.24	0.02	0.01	0.23
140	0.01	0.00	0.03	0.01	0.00	0.03	0.02	0.01	0.03
141	0.01	0.01	0.04	0.01	0.01	0.04	0.02	0.01	0.05

TABLE 7

DISSOLVED OXYGEN DEFICIT (mg/l) FROM UNIT LOAD OF EFFLUENT DISSOLVED OXYGEN DEFICIT (1,000 pounds/day)

- NO PROJECT -

1985

Response Segment	Dry Season			Canning Season			Wet Season		
Discharge Segment:	San Jose (103)	Sunnyvale (122)	Palo Alto (135)	San Jose (103)	Sunnyvale (122)	Palo Alto (135)	San Jose (103)	Sunnyvale (122)	Palo Alto (135)
1	0.11	0.00	0.00	0.12	0.00	0.00	0.14	0.00	0.00
2	0.04	0.00	0.00	0.05	0.00	0.00	0.06	0.00	0.00
3	0.01	0.00	0.00	0.02	0.00	0.00	0.02	0.00	0.00
4	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

TABLE 7
(continued)

DISSOLVED OXYGEN DEFICIT (mg/l) FROM UNIT LOAD OF EFFLUENT DISSOLVED OXYGEN DEFICIT (1,000 pounds/day)

- NO PROJECT -

1985

Response Segment / Discharge Segment:	Dry Season			Canning Season			Wet Season		
	San Jose (103)	Sunnyvale (122)	Palo Alto (135)	San Jose (103)	Sunnyvale (122)	Palo Alto (135)	San Jose (102)	Sunnyvale (122)	Palo Alto (135)
37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

TABLE 7
(continued)

DISSOLVED OXYGEN DEFICIT (mg/l) FROM UNIT LOAD OF EFFLUENT DISSOLVED OXYGEN DEFICIT (1,000 pounds/day)

- NO PROJECT -

1985

Response Segment / Discharge Segment:	Dry Season			Canning Season			Wet Season		
	San Jose (103)	Sunnyvale (122)	Palo Alto (135)	San Jose (103)	Sunnyvale (122)	Palo Alto (135)	San Jose (102)	Sunnyvale (122)	Palo Alto (135)
73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00
86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
96	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00
97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
101	0.01	0.00	0.00	0.02	0.00	0.00	0.02	0.00	0.00
102	0.04	0.00	0.00	0.04	0.00	0.00	0.05	0.00	0.00
103	0.96	0.00	0.00	0.72	0.00	0.00	0.91	0.00	0.00
104	0.98	0.00	0.00	0.71	0.00	0.00	0.91	0.00	0.00
105	0.94	0.00	0.00	0.71	0.00	0.00	0.90	0.00	0.00
106	0.87	0.00	0.00	0.67	0.00	0.00	0.85	0.00	0.00
107	0.74	0.00	0.00	0.59	0.00	0.00	0.74	0.00	0.00
108	0.64	0.00	0.00	0.52	0.00	0.00	0.65	0.00	0.00

TABLE 7
(continued)

DISSOLVED OXYGEN DEFICIT (mg/l) FROM UNIT LOAD OF EFFLUENT DISSOLVED OXYGEN DEFICIT (1,000 poundd/day)

- NO PROJECT -

1985

Response Segment / Discharge: Segment:	Dry Season San Jose (103)	Dry Season Sunnyvale (122)	Dry Season Palo Alto (135)	Canning Season San Jose (103)	Canning Season Sunnyvale (122)	Canning Season Palo Alto (135)	Wet Season San Jose (102)	Wet Season Sunnyvale (122)	Wet Season Palo Alto (135)
109	0.55	0.00	0.00	0.47	0.00	0.00	0.59	0.00	0.00
110	0.47	0.00	0.00	0.41	0.00	0.00	0.52	0.00	0.00
111	0.36	0.00	0.00	0.36	0.00	0.00	0.41	0.00	0.00
112	0.23	0.00	0.00	0.25	0.00	0.00	0.27	0.00	0.00
113	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
114	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
116	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
117	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00
118	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
119	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
121	0.00	0.11	0.00	0.03	0.10	0.00	0.00	0.07	0.00
122	0.00	1.02	0.00	0.00	0.99	0.00	0.00	1.15	0.00
123	0.00	0.24	0.00	0.00	0.23	0.00	0.00	0.33	0.00
124	0.00	0.05	0.00	0.00	0.06	0.00	0.00	0.09	0.00
125	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.02	0.00
126	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
128	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
129	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
131	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
132	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
133	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
134	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135	0.00	0.00	0.44	0.00	0.00	0.44	0.00	0.00	0.47
136	0.00	0.00	0.25	0.00	0.00	0.25	0.00	0.00	0.28
137	0.00	0.00	0.13	0.00	0.00	0.13	0.00	0.00	0.15
138	0.00	0.00	0.07	0.00	0.00	0.07	0.00	0.00	0.08
139	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.04
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
141	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

TABLE 8

DISSOLVED OXYGEN DEFICIT (mg/l) FROM UNIT LOAD OF ULTIMATE OXYGEN DEMAND (10,000 POUNDS/DAY)

- 1985 and 1995 -

Response in Segment / Discharge Segment:	Deep Water Discharge				DP 31 Discharge	
	Dry and Canning Seasons		Wet Season		Dry And Canning Seasons	Wet Season
	San Jose/ Sunnyvale (9)	Palo Alto (14)	San Jose/ Sunnyvale (9)	Palo Alto (14)	San Jose/ Sunnyvale/ Palo Alto (31)	San Jose/ Sunnyvale/ Palo Alto (31)
1	0.01	0.00	0.01	0.00	0.00	0.00
2	0.02	0.00	0.02	0.01	0.00	0.00
3	0.02	0.01	0.03	0.01	0.00	0.00
4	0.03	0.01	0.04	0.01	0.00	0.00
5	0.05	0.02	0.06	0.02	0.00	0.00
6	0.07	0.03	0.08	0.03	0.00	0.01
7	0.09	0.04	0.09	0.05	0.01	0.01
8	0.10	0.05	0.10	0.05	0.01	0.01
9	0.11	0.07	0.12	0.07	0.02	0.02
10	0.11	0.07	0.11	0.07	0.02	0.02
11	0.10	0.09	0.11	0.08	0.03	0.03
12	0.10	0.08	0.11	0.08	0.02	0.03
13	0.07	0.08	0.08	0.09	0.03	0.04
14	0.08	0.09	0.08	0.09	0.03	0.04
15	0.07	0.09	0.08	0.08	0.03	0.03
16	0.07	0.09	0.08	0.09	0.04	0.04
17	0.07	0.08	0.08	0.09	0.04	0.04
18	0.07	0.09	0.08	0.08	0.03	0.04
19	0.07	0.09	0.08	0.09	0.04	0.04
20	0.07	0.08	0.08	0.09	0.04	0.04
21	0.07	0.09	0.08	0.08	0.03	0.04
22	0.07	0.09	0.08	0.09	0.04	0.05
23	0.07	0.09	0.08	0.09	0.05	0.05
24	0.07	0.09	0.07	0.09	0.04	0.04
25	0.07	0.09	0.08	0.09	0.06	0.06
26	0.06	0.08	0.07	0.09	0.06	0.06
27	0.06	0.09	0.07	0.09	0.06	0.06
28	0.06	0.09	0.07	0.09	0.07	0.07
29	0.05	0.07	0.06	0.08	0.07	0.07
30	0.04	0.05	0.04	0.06	0.07	0.07
31	0.04	0.05	0.05	0.06	0.07	0.07
32	0.02	0.03	0.03	0.03	0.05	0.05
33	0.02	0.03	0.03	0.04	0.06	0.05
34	0.02	0.03	0.03	0.04	0.06	0.05
35	0.02	0.03	0.03	0.03	0.05	0.05
36	0.01	0.02	0.02	0.03	0.04	0.04

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TABLE 8

(continued)

DISSOLVED OXYGEN DEFICIT (mg/l) FROM UNIT LOAD OF ULTIMATE OXYGEN DEMAND (10,000 POUNDS/DAY)

- 1985 and 1995 -

Response in Segment / Discharge: Segment:	Deep Water Discharge				DP 31 Discharge	
	Dry and Canning Seasons		Wet Season		Dry And Canning Seasons	Wet Season
	San Jose/ Sunnyvale (9)	Palo Alto (14)	San Jose/ Sunnyvale (9)	Palo Alto (14)	San Jose/ Sunnyvale/ Palo Alto (31)	San Jose/ Sunnyvale/ Palo Alto (31)
37	0.02	0.03	0.03	0.03	0.05	0.05
38	0.02	0.03	0.03	0.04	0.05	0.05
39	0.01	0.01	0.01	0.01	0.02	0.03
40	0.01	0.01	0.01	0.02	0.03	0.04
41	0.02	0.02	0.02	0.03	0.05	0.05
42	0.02	0.03	0.02	0.03	0.05	0.05
43	0.00	0.00	0.00	0.01	0.02	0.02
44	0.00	0.01	0.01	0.01	0.02	0.02
45	0.01	0.02	0.02	0.02	0.04	0.04
46	0.01	0.02	0.01	0.02	0.03	0.03
47	0.00	0.00	0.00	0.00	0.01	0.01
48	0.00	0.00	0.00	0.00	0.01	0.01
49	0.01	0.01	0.01	0.02	0.03	0.03
50	0.01	0.01	0.01	0.02	0.03	0.03
51	0.00	0.00	0.00	0.00	0.01	0.01
52	0.00	0.00	0.00	0.00	0.01	0.01
53	0.01	0.01	0.01	0.02	0.03	0.03
54	0.01	0.01	0.01	0.01	0.03	0.03
55	0.00	0.00	0.00	0.00	0.01	0.01
56	0.00	0.00	0.00	0.00	0.00	0.01
57	0.00	0.01	0.01	0.01	0.02	0.03
58	0.01	0.01	0.01	0.02	0.03	0.04
59	0.00	0.00	0.00	0.00	0.00	0.01
60	0.00	0.00	0.00	0.00	0.00	0.00
61	0.00	0.00	0.00	0.01	0.02	0.02
62	0.00	0.00	0.00	0.00	0.01	0.01
63	0.00	0.00	0.00	0.00	0.00	0.01
64	0.00	0.00	0.00	0.00	0.00	0.00
65	0.00	0.00	0.00	0.01	0.01	0.02
66	0.00	0.00	0.00	0.00	0.01	0.01
67	0.00	0.00	0.00	0.00	0.00	0.01
68	0.00	0.00	0.00	0.00	0.00	0.00
69	0.00	0.00	0.00	0.00	0.01	0.01
70	0.00	0.00	0.00	0.00	0.01	0.01
71	0.00	0.00	0.00	0.00	0.00	0.00
72	0.00	0.00	0.00	0.00	0.00	0.00

TABLE 8

(continued)

DISSOLVED OXYGEN DEFICIT (mg/l) FROM UNIT LOAD OF ULTIMATE OXYGEN DEMAND (10,000 POUNDS/DAY)

- 1985 and 1995 -

	Deep Water Discharge				DP 31 Discharge	
	Dry and Canning Seasons		Wet Season		Dry And Canning Seasons	Wet Season
Response in Segment / Discharge: Segment:	San Jose/ Sunnyvale (9)	Palo Alto (14)	San Jose/ Sunnyvale (9)	Palo Alto (14)	San Jose/ Sunnyvale/ Palo Alto (31)	San Jose/ Sunnyvale/ Palo Alto (31)
73	0.00	0.00	0.00	0.00	0.00	0.01
74	0.00	0.00	0.00	0.00	0.00	0.00
75	0.00	0.00	0.00	0.00	0.00	0.00
76	0.00	0.00	0.00	0.00	0.00	0.00
77	0.00	0.00	0.00	0.00	0.00	0.00
78	0.00	0.00	0.00	0.00	0.00	0.00
79	0.00	0.00	0.00	0.00	0.00	0.00
80	0.00	0.00	0.00	0.00	0.00	0.00
81	0.00	0.00	0.00	0.00	0.00	0.00
82	0.00	0.00	0.00	0.00	0.00	0.00
83	0.00	0.00	0.00	0.00	0.00	0.00
84	0.00	0.00	0.00	0.00	0.00	0.00
85	0.00	0.00	0.00	0.00	0.00	0.00
86	0.00	0.00	0.00	0.00	0.00	0.00
87	0.00	0.00	0.00	0.00	0.00	0.00
88	0.00	0.00	0.00	0.00	0.00	0.00
89	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00
91	0.00	0.00	0.00	0.00	0.00	0.00
92	0.00	0.00	0.00	0.00	0.00	0.00
93	0.00	0.00	0.00	0.00	0.00	0.00
94	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.00	0.00	0.00
96	0.00	0.00	0.00	0.00	0.00	0.00
97	0.00	0.00	0.00	0.00	0.00	0.00
98	0.00	0.00	0.00	0.00	0.00	0.00
99	0.00	0.00	0.00	0.00	0.00	0.00
100	0.00	0.00	0.00	0.00	0.00	0.00
101	0.00	0.00	0.00	0.00	0.00	0.00
102	0.01	0.00	0.01	0.00	0.00	0.00
103	0.00	0.00	0.00	0.00	0.00	0.00
104	0.00	0.00	0.00	0.00	0.00	0.00
105	0.00	0.00	0.06	0.00	0.00	0.00
106	0.00	0.00	0.00	0.00	0.00	0.00
107	0.00	0.00	0.00	0.00	0.00	0.00
108	0.00	0.00	0.00	0.00	0.00	0.00

TABLE 8

(continued)

DISSOLVED OXYGEN DEFICIT (mg/l) FROM UNIT LOAD OF ULTIMATE OXYGEN DEMAND (10,000 POUNDS/DAY)

- 1985 and 1995 -

	Deep Water Discharge				DP 31 Discharge	
	Dry and Canning Seasons		Wet Season		Dry And Canning Seasons	Wet Season
Response in Segment / Discharge: Segment:	San Jose/ Sunnyvale (9)	Palo Alto (14)	San Jose/ Sunnyvale (9)	Palo Alto (14)	San Jose/ Sunnyvale/ Palo Alto (31)	San Jose/ Sunnyvale/ Palo Alto (31)
109	0.00	0.00	0.00	0.00	0.00	0.00
110	0.00	0.00	0.01	0.00	0.00	0.00
111	0.01	0.00	0.01	0.00	0.00	0.00
112	0.01	0.00	0.01	0.00	0.00	0.00
113	0.01	0.00	0.01	0.00	0.00	0.00
114	0.01	0.00	0.01	0.00	0.00	0.00
115	0.01	0.00	0.02	0.00	0.00	0.00
116	0.02	0.00	0.02	0.01	0.00	0.00
117	0.02	0.00	0.02	0.01	0.00	0.00
118	0.01	0.00	0.01	0.00	0.00	0.00
119	0.02	0.01	0.03	0.01	0.00	0.00
120	0.04	0.02	0.06	0.02	0.00	0.00
121	0.00	0.00	0.00	0.00	0.00	0.00
122	0.00	0.00	0.00	0.00	0.00	0.00
123	0.01	0.00	0.02	0.00	0.00	0.00
124	0.04	0.02	0.05	0.02	0.00	0.00
125	0.07	0.03	0.08	0.03	0.00	0.01
126	0.00	0.00	0.00	0.00	0.00	0.00
127	0.01	0.02	0.02	0.03	0.00	0.00
128	0.03	0.05	0.04	0.06	0.01	0.02
129	0.00	0.00	0.00	0.00	0.00	0.00
130	0.00	0.00	0.00	0.00	0.00	0.00
131	0.00	0.01	0.00	0.01	0.00	0.00
132	0.01	0.02	0.02	0.02	0.01	0.01
133	0.03	0.05	0.04	0.05	0.02	0.02
134	0.05	0.07	0.06	0.08	0.03	0.03
135	0.03	0.05	0.04	0.05	0.03	0.03
136	0.04	0.05	0.05	0.06	0.03	0.04
137	0.04	0.06	0.06	0.07	0.04	0.04
138	0.04	0.07	0.06	0.08	0.05	0.05
139	0.06	0.08	0.07	0.08	0.05	0.05
140	0.04	0.05	0.06	0.06	0.02	0.02
141	0.07	0.07	0.07	0.07	0.02	0.03

TABLE 9

DISSOLVED OXYGEN DEFICIT (mg/l) FROM UNIT LOAD OF EFFLUENT DISSOLVED OXYGEN DEFICIT (1,000 pounds/day)

- 1985 and 1995 -

Response in Segment / Discharge: Segment:	Deep Water Discharge				DP 31 Discharge	
	Dry and Canning Seasons		Wet Season		Dry And Canning Seasons	Wet Season
	San Jose/ Sunnyvale (9)	Palo Alto (14)	San Jose/ Sunnyvale (9)	Palo Alto (14)	San Jose/ Sunnyvale/ Palo Alto (31)	San Jose/ Sunnyvale/ Palo Alto (31)
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00
7	0.01	0.00	0.01	0.00	0.00	0.00
8	0.01	0.00	0.01	0.00	0.00	0.00
9	0.04	0.00	0.04	0.00	0.00	0.00
10	0.02	0.00	0.03	0.00	0.00	0.00
11	0.02	0.01	0.02	0.01	0.00	0.00
12	0.01	0.01	0.02	0.01	0.00	0.00
13	0.00	0.01	0.00	0.01	0.00	0.0
14	0.00	0.02	0.01	0.02	0.00	0.00
15	0.00	0.01	0.01	0.01	0.00	0.00
16	0.00	0.01	0.00	0.01	0.00	0.00
17	0.00	0.01	0.00	0.01	0.00	0.00
18	0.00	0.01	0.00	0.01	0.00	0.00
19	0.00	0.01	0.00	0.01	0.00	0.00
20	0.00	0.01	0.00	0.01	0.00	0.00
21	0.00	0.01	0.00	0.01	0.00	0.00
22	0.00	0.01	0.00	0.01	0.00	0.00
23	0.00	0.01	0.00	0.01	0.00	0.00
24	0.00	0.00	0.00	0.01	0.00	0.00
25	0.00	0.00	0.00	0.01	0.01	0.01
26	0.00	0.00	0.00	0.00	0.01	0.01
27	0.00	0.00	0.00	0.00	0.00	0.01
28	0.00	0.00	0.00	0.00	0.01	0.01
29	0.00	0.00	0.00	0.00	0.01	0.01
30	0.00	0.00	0.00	0.00	0.02	0.02
31	0.00	0.00	0.00	0.00	0.02	0.02
32	0.00	0.00	0.00	0.00	0.01	0.01
33	0.00	0.00	0.00	0.00	0.01	0.01
34	0.00	0.00	0.00	0.00	0.01	0.01
35	0.00	0.00	0.00	0.00	0.01	0.01
36	0.00	0.00	0.00	0.00	0.00	0.00

TABLE 9

(continued)

DISSOLVED OXYGEN DEFICIT (mg/l) FROM UNIT LOAD OF **EFFLUENT DISSOLVED OXYGEN DEFICIT (1,000 pounds/day)**

- 1985 and 1995 -

	Deep Water Discharge				DP 31 Discharge	
	Dry and Canning Seasons		Wet Season		Dry And Canning Seasons	Wet Season
Response in Segment / Discharge: Segment:	San Jose/ Sunnyvale (9)	Palo Alto (14)	San Jose/ Sunnyvale (9)	Palo Alto (14)	San Jose/ Sunnyvale/ Palo Alto (31)	San Jose/ Sunnyvale/ Palo Alto (31)
37	0.00	0.00	0.00	0.00	0.01	0.01
38	0.00	0.00	0.00	0.00	0.01	0.01
39	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.01
43	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.00	0.00
46	0.00	0.00	0.00	0.00	0.00	0.00
47	0.00	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.00
49	0.00	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00	0.00
51	0.00	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.00	0.00	0.00
53	0.00	0.00	0.00	0.00	0.00	0.00
54	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	0.00	0.00
57	0.00	0.00	0.00	0.00	0.00	0.00
58	0.00	0.00	0.00	0.00	0.00	0.00
59	0.00	0.00	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00	0.00	0.00
61	0.00	0.00	0.00	0.00	0.00	0.00
62	0.00	0.00	0.00	0.00	0.00	0.00
63	0.00	0.00	0.00	0.00	0.00	0.00
64	0.00	0.00	0.00	0.00	0.00	0.00
65	0.00	0.00	0.00	0.00	0.00	0.00
66	0.00	0.00	0.00	0.00	0.00	0.00
67	0.00	0.00	0.00	0.00	0.00	0.00
68	0.00	0.00	0.00	0.00	0.00	0.00
69	0.00	0.00	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.00	0.00	0.00
71	0.00	0.00	0.00	0.00	0.00	0.00
72	0.00	0.00	0.00	0.00	0.00	0.00

TABLE 9

(continued)

DISSOLVED OXYGEN DEFICIT (mg/l) FROM UNIT LOAD OF EFFLUENT DISSOLVED OXYGEN DEFICIT (1,000 pounds/day)

- 1985 and 1995 -

	Deep Water Discharge				DP 31 Discharge	
	Dry and Canning Seasons		Wet Season		Dry And Canning Seasons	Wet Season
Response in Segment / Discharge: Segment:	San Jose/ Sunnyvale (9)	Palo Alto (14)	San Jose/ Sunnyvale (9)	Palo Alto (14)	San Jose/ Sunnyvale/ Palo Alto (31)	San Jose/ Sunnyvale/ Palo Alto (31)
73	0.00	0.00	0.00	0.00	0.00	0.00
74	0.00	0.00	0.00	0.00	0.00	0.00
75	0.00	0.00	0.00	0.00	0.00	0.00
76	0.00	0.00	0.00	0.00	0.00	0.00
77	0.00	0.00	0.00	0.00	0.00	0.00
78	0.00	0.00	0.00	0.00	0.00	0.00
79	0.00	0.00	0.00	0.00	0.00	0.00
80	0.00	0.00	0.00	0.00	0.00	0.00
81	0.00	0.00	0.00	0.00	0.00	0.00
82	0.00	0.00	0.00	0.00	0.00	0.00
83	0.00	0.00	0.00	0.00	0.00	0.00
84	0.00	0.00	0.00	0.00	0.00	0.00
85	0.00	0.00	0.00	0.00	0.00	0.00
86	0.00	0.00	0.00	0.00	0.00	0.00
87	0.00	0.00	0.00	0.00	0.00	0.00
88	0.00	0.00	0.00	0.00	0.00	0.00
89	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00
91	0.00	0.00	0.00	0.00	0.00	0.00
92	0.00	0.00	0.00	0.00	0.00	0.00
93	0.00	0.00	0.00	0.00	0.00	0.00
94	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.00	0.00	0.00
96	0.00	0.00	0.00	0.00	0.00	0.00
97	0.00	0.00	0.00	0.00	0.00	0.00
98	0.00	0.00	0.00	0.00	0.00	0.00
99	0.00	0.00	0.00	0.00	0.00	0.00
100	0.00	0.00	0.00	0.00	0.00	0.00
101	0.00	0.00	0.00	0.00	0.00	0.00
102	0.00	0.00	0.00	0.00	0.00	0.00
103	0.00	0.00	0.00	0.00	0.00	0.00
104	0.00	0.00	0.00	0.00	0.00	0.00
105	0.00	0.00	0.00	0.00	0.00	0.00
106	0.00	0.00	0.00	0.00	0.00	0.00
107	0.00	0.00	0.00	0.00	0.00	0.00
108	0.00	0.00	0.00	0.00	0.00	0.00

TABLE 9

(continued)

DISSOLVED OXYGEN DEFICIT (mg/l) FROM UNIT LOAD OF EFFLUENT DISSOLVED OXYGEN DEFICIT (1,000 pounds/day)

- 1985 and 1995 -

Response in Segment / Discharge: Segment:	Deep Water Discharge				DP 31 Discharge	
	Dry and Canning Seasons		Wet Season		Dry And Canning Seasons	Wet Season
	San Jose/ Sunnyvale (9)	Palo Alto (14)	San Jose/ Sunnyvale (9)	Palo Alto (14)	San Jose/ Sunnyvale/ Palo Alto (31)	San Jose/ Sunnyvale/ Palo Alto (31)
109	0.00	0.00	0.00	0.00	0.00	0.00
110	0.00	0.00	0.00	0.00	0.00	0.00
111	0.00	0.00	0.00	0.00	0.00	0.00
112	0.00	0.00	0.00	0.00	0.00	0.00
113	0.00	0.00	0.00	0.00	0.00	0.00
114	0.00	0.00	0.00	0.00	0.00	0.00
115	0.00	0.00	0.00	0.00	0.00	0.00
116	0.00	0.00	0.00	0.00	0.00	0.00
117	0.00	0.00	0.00	0.00	0.00	0.00
118	0.00	0.00	0.00	0.00	0.00	0.00
119	0.00	0.00	0.00	0.00	0.00	0.00
120	0.00	0.00	0.00	0.00	0.00	0.00
121	0.00	0.00	0.00	0.00	0.00	0.00
122	0.00	0.00	0.00	0.00	0.00	0.00
123	0.00	0.00	0.00	0.00	0.00	0.00
124	0.00	0.00	0.00	0.00	0.00	0.00
125	0.00	0.00	0.00	0.00	0.00	0.00
126	0.00	0.00	0.00	0.00	0.00	0.00
127	0.00	0.00	0.00	0.00	0.00	0.00
128	0.00	0.00	0.00	0.00	0.00	0.00
129	0.00	0.00	0.00	0.00	0.00	0.00
130	0.00	0.00	0.00	0.00	0.00	0.00
131	0.00	0.00	0.00	0.00	0.00	0.00
132	0.00	0.00	0.00	0.00	0.00	0.00
133	0.00	0.00	0.00	0.00	0.00	0.00
134	0.00	0.00	0.00	0.00	0.00	0.00
135	0.00	0.00	0.00	0.00	0.00	0.00
136	0.00	0.00	0.00	0.00	0.00	0.00
137	0.00	0.00	0.00	0.00	0.00	0.00
138	0.00	0.00	0.00	0.00	0.00	0.00
139	0.00	0.00	0.00	0.00	0.00	0.00
140	0.00	0.00	0.00	0.00	0.00	0.00
141	0.00	0.00	0.00	0.00	0.00	0.00

TABLE 10

DISSOLVED OXYGEN DEFICIT (mg/l) FROM OTHER SOURCES OF DISSOLVED OXYGEN DEFICIT
- 1985 and 1995 -

Response in Segment	Other Dischargers All Disposal Alternatives: Dry and Canning Seasons	Other Dischargers All Disposal Alternatives: Wet Season	No Project: Dry and Canning Seasons	No Project: Wet Season	Bottom Demand Deep Water Discharge: Dry and Canning Seasons	Bottom Demand Deep Water Discharge: Wet Season	DP 31 Discharge: Dry and Canning Seasons	DP 31 Discharge: Wet Season
1	0.00	0.00	0.33	0.39	0.34	0.41	0.34	0.41
2	0.00	0.00	0.33	0.39	0.33	0.39	0.33	0.39
3	0.00	0.00	0.33	0.39	0.33	0.40	0.33	0.40
4	0.00	0.00	0.32	0.39	0.32	0.39	0.32	0.39
5	0.00	0.00	0.32	0.38	0.32	0.38	0.32	0.38
6	0.00	0.01	0.33	0.39	0.32	0.38	0.32	0.39
7	0.01	0.02	0.32	0.39	0.32	0.38	0.32	0.39
8	0.01	0.02	0.33	0.39	0.32	0.38	0.32	0.39
9	0.03	0.04	0.32	0.39	0.31	0.37	0.32	0.39
10	0.03	0.04	0.32	0.39	0.31	0.38	0.32	0.39
11	0.04	0.05	0.32	0.39	0.32	0.38	0.32	0.39
12	0.04	0.05	0.32	0.39	0.32	0.38	0.32	0.39
13	0.06	0.07	0.33	0.39	0.33	0.39	0.33	0.39
14	0.04	0.07	0.33	0.39	0.32	0.39	0.33	0.39
15	0.05	0.06	0.32	0.38	0.32	0.38	0.32	0.38
16	0.06	0.08	0.33	0.40	0.33	0.39	0.33	0.40
17	0.07	0.08	0.33	0.39	0.32	0.39	0.33	0.39
18	0.06	0.08	0.31	0.38	0.31	0.37	0.31	0.38
19	0.07	0.09	0.33	0.40	0.33	0.40	0.33	0.40
20	0.08	0.09	0.33	0.40	0.33	0.39	0.33	0.39
21	0.06	0.08	0.31	0.38	0.31	0.37	0.31	0.38
22	0.08	0.10	0.34	0.40	0.33	0.40	0.34	0.40
23	0.11	0.13	0.35	0.42	0.35	0.41	0.35	0.42
24	0.08	0.10	0.32	0.39	0.32	0.39	0.32	0.39
25	0.13	0.15	0.37	0.43	0.36	0.43	0.36	0.43
26	0.14	0.16	0.38	0.44	0.37	0.44	0.37	0.44
27	0.12	0.13	0.36	0.43	0.36	0.43	0.36	0.43
28	0.17	0.19	0.39	0.46	0.39	0.46	0.39	0.46
29	0.20	0.22	0.42	0.49	0.41	0.49	0.41	0.48
30	0.24	0.27	0.46	0.54	0.46	0.54	0.46	0.53
31	0.24	0.27	0.45	0.52	0.45	0.52	0.44	0.52
32	0.22	0.25	0.45	0.53	0.45	0.53	0.45	0.53
33	0.27	0.29	0.49	0.57	0.49	0.57	0.49	0.56
34	0.30	0.31	0.48	0.56	0.48	0.56	0.48	0.55
35	0.31	0.33	0.48	0.56	0.48	0.56	0.48	0.55
36	0.26	0.29	0.49	0.57	0.49	0.57	0.49	0.57

TABLE 10

DISSOLVED OXYGEN DEFICIT (mg/l) FROM OTHER SOURCES OF DISSOLVED OXYGEN DEFICIT
- 1985 and 1995 -

Response in Segment	Other Dischargers All Disposal Alternatives		No Project		Bottom Demand Deep Water Discharge		DP 31 Discharge	
	Dry and Canning Seasons	Wet Season	Dry and Canning Seasons	Wet Season	Dry and Canning Seasons	Wet Season	Dry and Canning Seasons	Wet Season
37	0.24	0.26	0.50	0.58	0.50	0.58	0.50	0.58
38	0.30	0.32	0.50	0.57	0.50	0.57	0.49	0.57
39	0.34	0.36	0.50	0.57	0.50	0.57	0.50	0.57
40	0.28	0.31	0.50	0.58	0.50	0.58	0.50	0.58
41	0.22	0.24	0.51	0.59	0.51	0.59	0.50	0.58
42	0.31	0.32	0.52	0.59	0.52	0.59	0.51	0.59
43	0.34	0.36	0.50	0.58	0.50	0.58	0.50	0.58
44	0.26	0.28	0.49	0.57	0.49	0.57	0.49	0.57
45	0.24	0.26	0.51	0.59	0.51	0.59	0.51	0.59
46	0.31	0.33	0.52	0.60	0.52	0.60	0.52	0.60
47	0.32	0.34	0.50	0.57	0.50	0.57	0.50	0.57
48	0.24	0.26	0.48	0.57	0.48	0.57	0.48	0.57
49	0.21	0.24	0.50	0.58	0.50	0.58	0.50	0.58
50	0.30	0.32	0.53	0.61	0.53	0.61	0.53	0.60
51	0.28	0.31	0.50	0.57	0.50	0.57	0.50	0.57
52	0.23	0.26	0.49	0.58	0.49	0.58	0.49	0.58
53	0.19	0.22	0.50	0.58	0.50	0.58	0.50	0.58
54	0.25	0.28	0.53	0.61	0.53	0.61	0.53	0.61
55	0.26	0.28	0.49	0.57	0.49	0.57	0.49	0.57
56	0.22	0.25	0.51	0.59	0.51	0.59	0.51	0.59
57	0.20	0.24	0.56	0.66	0.56	0.66	0.56	0.66
58	0.29	0.33	0.66	0.77	0.66	0.77	0.66	0.76
59	0.20	0.24	0.48	0.55	0.48	0.55	0.48	0.55
60	0.17	0.20	0.51	0.59	0.51	0.59	0.51	0.59
61	0.14	0.18	0.50	0.60	0.50	0.60	0.50	0.60
62	0.10	0.12	0.33	0.38	0.33	0.38	0.33	0.38
63	0.19	0.23	0.48	0.55	0.48	0.55	0.48	0.55
64	0.15	0.19	0.57	0.66	0.57	0.66	0.57	0.66
65	0.12	0.15	0.49	0.58	0.49	0.58	0.49	0.58
66	0.10	0.13	0.44	0.51	0.44	0.51	0.44	0.51
67	0.22	0.26	0.47	0.53	0.47	0.53	0.47	0.53
68	0.18	0.22	0.61	0.69	0.61	0.69	0.61	0.69
69	0.10	0.14	0.50	0.58	0.50	0.58	0.50	0.58
70	0.13	0.17	0.49	0.55	0.49	0.55	0.49	0.55
71	0.30	0.33	0.47	0.53	0.47	0.53	0.47	0.53
72	0.27	0.31	0.58	0.64	0.58	0.64	0.58	0.64

TABLE 10

DISSOLVED OXYGEN DEFICIT (mg/l) FROM OTHER SOURCES OF DISSOLVED OXYGEN DEFICIT
- 1985 and 1995 -

Response in Segment	Other Dischargers All Disposal Alternatives		No Project		Bottom Demand Deep Water Discharge		DP 31 Discharge	
	Dry and Canning Seasons	Wet Season	Dry and Canning Seasons	Wet Season	Dry and Canning Seasons	Wet Season	Dry and Canning Seasons	Wet Season
73	0.12	0.15	0.51	0.58	0.51	0.58	0.51	0.58
74	0.25	0.28	0.45	0.51	0.45	0.51	0.45	0.51
75	0.37	0.40	0.44	0.49	0.44	0.49	0.44	0.49
76	0.35	0.36	0.45	0.50	0.45	0.50	0.44	0.50
77	0.44	0.45	0.41	0.45	0.41	0.45	0.41	0.45
78	0.50	0.51	0.34	0.37	0.34	0.37	0.34	0.37
79	0.21	0.23	0.40	0.45	0.40	0.45	0.40	0.45
80	0.44	0.44	0.44	0.48	0.44	0.48	0.44	0.48
81	0.51	0.50	0.34	0.38	0.34	0.38	0.34	0.38
82	0.54	0.53	0.25	0.28	0.25	0.28	0.25	0.28
83	0.52	0.51	0.24	0.27	0.24	0.27	0.24	0.27
84	0.52	0.50	0.20	0.22	0.20	0.22	0.20	0.22
85	0.50	0.48	0.16	0.19	0.16	0.19	0.16	0.19
86	0.48	0.46	0.16	0.18	0.16	0.18	0.16	0.18
87	0.24	0.25	0.02	0.02	0.02	0.02	0.02	0.02
88	0.48	0.45	0.12	0.13	0.12	0.13	0.12	0.13
89	0.36	0.35	0.10	0.11	0.10	0.11	0.10	0.11
90	0.21	0.22	0.02	0.02	0.02	0.02	0.02	0.02
91	0.29	0.27	0.06	0.07	0.06	0.07	0.06	0.07
92	0.22	0.21	0.05	0.05	0.05	0.05	0.05	0.05
93	0.12	0.12	0.02	0.02	0.02	0.02	0.02	0.02
94	0.04	0.04	0.00	0.01	0.00	0.01	0.00	0.01
95	0.14	0.12	0.02	0.02	0.02	0.02	0.02	0.02
96	0.08	0.08	0.01	0.01	0.01	0.01	0.01	0.01
97	0.08	0.09	0.01	0.01	0.01	0.01	0.01	0.01
98	0.00	0.00	0.20	0.06	0.20	0.06	0.20	0.06
99	0.00	0.00	0.09	0.06	0.09	0.06	0.09	0.06
100	0.00	0.00	0.24	0.21	0.24	0.22	0.24	0.22
101	0.00	0.00	0.29	0.31	0.29	0.31	0.29	0.31
102	0.00	0.00	0.38	0.44	0.39	0.44	0.39	0.44
103	0.00	0.00	0.00	0.00	1.04	0.16	1.04	0.16
104	0.00	0.00	0.02	0.02	0.98	0.36	0.98	0.36
105	0.00	0.00	0.03	0.03	0.75	0.57	0.75	0.57
106	0.00	0.00	0.10	0.12	0.70	0.72	0.70	0.72
107	0.00	0.00	0.21	0.25	0.64	0.73	0.64	0.73
108	0.00	0.00	0.24	0.29	0.54	0.63	0.54	0.63

TABLE 10

DISSOLVED OXYGEN DEFICIT (mg/l) FROM OTHER SOURCES OF DISSOLVED OXYGEN DEFICIT
- 1985 and 1995 -

Response in Segment	Other Dischargers All Disposal Alternatives		No Project		Bottom Demand Deep Water Discharge		DP 31 Discharge	
	Dry and Canning Seasons	Wet Season	Dry and Canning Seasons	Wet Season	Dry and Canning Seasons	Wet Season	Dry and Canning Seasons	Wet Season
109	0.00	0.00	0.28	0.33	0.48	0.57	0.48	0.57
110	0.00	0.00	0.30	0.36	0.44	0.53	0.44	0.53
111	0.00	0.00	0.33	0.39	0.40	0.48	0.40	0.48
112	0.00	0.00	0.34	0.40	0.37	0.44	0.37	0.44
113	0.00	0.00	0.83	0.75	0.83	0.75	0.83	0.75
114	0.00	0.00	0.64	0.70	0.64	0.70	0.64	0.70
115	0.00	0.00	0.48	0.56	0.48	0.56	0.48	0.56
116	0.00	0.00	0.43	0.51	0.43	0.51	0.43	0.51
117	0.00	0.00	0.40	0.47	0.40	0.47	0.40	0.47
118	0.00	0.00	0.05	0.05	0.05	0.05	0.05	0.05
119	0.00	0.00	0.24	0.28	0.24	0.28	0.24	0.28
120	0.00	0.00	0.38	0.45	0.38	0.45	0.38	0.45
121	0.00	0.00	0.96	1.02	0.99	1.03	0.99	1.03
122	0.00	0.00	1.40	1.64	1.61	1.87	1.61	1.87
123	0.00	0.00	0.97	1.17	0.93	1.14	0.93	1.14
124	0.00	0.00	0.56	0.68	0.51	0.64	0.52	0.64
125	0.00	0.01	0.44	0.53	0.42	0.50	0.42	0.51
126	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.02
127	0.00	0.01	0.26	0.30	0.26	0.30	0.26	0.30
128	0.02	0.03	0.41	0.48	0.40	0.48	0.41	0.48
129	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00
131	0.00	0.00	0.05	0.06	0.05	0.06	0.05	0.06
132	0.01	0.01	0.32	0.37	0.32	0.37	0.32	0.37
133	0.03	0.05	0.59	0.67	0.59	0.67	0.59	0.67
134	0.05	0.07	0.50	0.58	0.50	0.58	0.50	0.58
135	0.04	0.05	0.32	0.37	0.34	0.40	0.34	0.40
136	0.05	0.06	0.36	0.42	0.37	0.44	0.37	0.44
137	0.07	0.08	0.37	0.44	0.38	0.45	0.38	0.45
138	0.09	0.10	0.37	0.44	0.38	0.44	0.38	0.44
139	0.10	0.12	0.37	0.43	0.37	0.43	0.37	0.43
140	0.02	0.03	0.40	0.45	0.40	0.45	0.40	0.45
141	0.03	0.05	0.37	0.43	0.37	0.43	0.37	0.43

TABLE 11

DISSOLVED OXYGEN DEFICIT FROM OTHER SOURCES OF DISSOLVED OXYGEN DEFICIT
- 1985 and 1995 -

	Swamp Loads						Urban Runoff		
	No Project		Deep Water Discharge		DP 31 Discharge		No Project	Deep Water Discharge	DP 31 Discharge
Response in Segment	Dry and Canning Seasons	Wet Season	Dry and Canning Seasons	Wet Season	Dry and Canning Seasons	Wet Season	Wet Season	Wet Season	Wet Season
1	0.90	0.58	1.43	0.92	1.43	0.92	0.15	0.20	0.18
2	0.93	0.60	1.14	0.76	1.14	0.76	0.13	0.14	0.12
3	0.82	0.53	0.86	0.59	0.86	0.59	0.10	0.09	0.08
4	0.73	0.49	0.72	0.50	0.72	0.50	0.08	0.06	0.06
5	0.70	0.47	0.66	0.46	0.66	0.46	0.06	0.05	0.04
6	0.68	0.46	0.63	0.43	0.63	0.44	0.05	0.04	0.04
7	0.55	0.38	0.50	0.35	0.50	0.36	0.04	0.03	0.03
8	0.52	0.36	0.47	0.33	0.47	0.35	0.04	0.03	0.03
9	0.50	0.35	0.44	0.31	0.44	0.33	0.03	0.03	0.03
10	0.49	0.34	0.44	0.31	0.44	0.33	0.03	0.03	0.03
11	0.50	0.35	0.46	0.32	0.46	0.34	0.03	0.03	0.03
12	0.50	0.34	0.46	0.32	0.46	0.33	0.03	0.03	0.03
13	0.51	0.34	0.48	0.33	0.48	0.33	0.03	0.03	0.03
14	0.50	0.34	0.47	0.32	0.47	0.33	0.03	0.03	0.03
15	0.46	0.32	0.43	0.30	0.43	0.31	0.03	0.03	0.03
16	0.54	0.36	0.52	0.35	0.52	0.35	0.04	0.03	0.03
17	0.52	0.35	0.49	0.33	0.49	0.34	0.04	0.03	0.03
18	0.47	0.32	0.45	0.31	0.45	0.31	0.03	0.03	0.03
19	0.56	0.38	0.54	0.36	0.54	0.36	0.04	0.03	0.03
20	0.54	0.36	0.51	0.35	0.51	0.35	0.04	0.04	0.03
21	0.47	0.32	0.45	0.31	0.45	0.31	0.03	0.03	0.03
22	0.60	0.40	0.58	0.38	0.58	0.38	0.04	0.04	0.03
23	0.57	0.38	0.55	0.37	0.55	0.37	0.04	0.04	0.04
24	0.51	0.35	0.49	0.33	0.49	0.34	0.04	0.04	0.03
25	0.61	0.40	0.59	0.39	0.59	0.39	0.05	0.04	0.04
26	0.60	0.40	0.58	0.38	0.58	0.38	0.05	0.04	0.04
27	0.57	0.38	0.55	0.37	0.55	0.37	0.05	0.05	0.04
28	0.61	0.40	0.59	0.39	0.59	0.39	0.05	0.05	0.04
29	0.60	0.39	0.58	0.38	0.58	0.37	0.05	0.05	0.04
30	0.53	0.34	0.52	0.34	0.52	0.33	0.05	0.04	0.04
31	0.58	0.35	0.53	0.34	0.53	0.33	0.05	0.04	0.04
32	0.56	0.35	0.55	0.34	0.55	0.34	0.04	0.04	0.04
33	0.44	0.29	0.43	0.28	0.43	0.27	0.04	0.04	0.03
34	0.46	0.30	0.46	0.29	0.46	0.29	0.04	0.04	0.03
35	0.44	0.28	0.44	0.28	0.44	0.27	0.04	0.04	0.03
36	0.64	0.38	0.54	0.38	0.64	0.38	0.05	0.05	0.04

TABLE 11
(Continued)

DISSOLVED OXYGEN DEFICIT FROM OTHER SOURCES OF DISSOLVED OXYGEN DEFICIT
- 1985 and 1995 -

Response in Segment	No Project		Swamp Loads Deep Water Discharge		DP 31 Discharge		Urban Runoff		
	Dry and Canning Seasons	Wet Season	Dry and Canning Seasons	Wet Season	Dry and Canning Seasons	Wet Season	No Project Wet Season	Deep Water Discharge Wet Season	DP 31 Discharge Wet Season
37	0.41	0.27	0.41	0.26	0.41	0.26	0.04	0.04	0.03
38	0.44	0.29	0.44	0.28	0.44	0.28	0.04	0.04	0.03
39	0.32	0.21	0.32	0.20	0.32	0.20	0.03	0.03	0.03
40	0.67	0.40	0.67	0.39	0.67	0.39	0.05	0.05	0.04
41	0.45	0.28	0.45	0.28	0.45	0.27	0.04	0.03	0.03
42	0.43	0.27	0.42	0.27	0.42	0.26	0.04	0.04	0.03
43	0.25	0.16	0.25	0.16	0.25	0.16	0.03	0.03	0.02
44	0.56	0.33	0.56	0.33	0.56	0.33	0.04	0.04	0.03
45	0.37	0.24	0.37	0.23	0.37	0.23	0.03	0.03	0.03
46	0.32	0.21	0.32	0.20	0.32	0.20	0.03	0.03	0.03
47	0.19	0.12	0.19	0.12	0.19	0.12	0.02	0.02	0.02
48	0.35	0.21	0.35	0.21	0.35	0.21	0.03	0.03	0.03
49	0.36	0.23	0.36	0.22	0.36	0.22	0.03	0.03	0.02
50	0.30	0.19	0.30	0.19	0.30	0.19	0.03	0.03	0.02
51	0.16	0.11	0.16	0.11	0.16	0.11	0.02	0.02	0.02
52	0.22	0.14	0.22	0.14	0.22	0.14	0.03	0.03	0.03
53	0.36	0.22	0.35	0.22	0.35	0.22	0.03	0.03	0.02
54	0.32	0.20	0.32	0.20	0.32	0.20	0.03	0.03	0.02
55	0.14	0.10	0.14	0.10	0.14	0.10	0.02	0.02	0.02
56	0.15	0.10	0.15	0.10	0.15	0.10	0.03	0.03	0.03
57	0.31	0.20	0.31	0.20	0.31	0.20	0.03	0.03	0.02
58	0.39	0.25	0.38	0.24	0.38	0.24	0.03	0.03	0.03
59	0.11	0.08	0.11	0.08	0.11	0.08	0.01	0.01	0.01
60	0.09	0.06	0.09	0.06	0.09	0.06	0.02	0.02	0.02
61	0.24	0.16	0.24	0.16	0.24	0.16	0.02	0.02	0.02
62	0.15	0.10	0.14	0.10	0.14	0.10	0.01	0.01	0.01
63	0.11	0.08	0.11	0.08	0.11	0.08	0.01	0.01	0.01
64	0.05	0.04	0.05	0.04	0.05	0.04	0.01	0.01	0.01
65	0.19	0.14	0.19	0.14	0.19	0.14	0.02	0.02	0.02
66	0.15	0.11	0.15	0.11	0.15	0.11	0.01	0.01	0.01
67	0.09	0.06	0.09	0.06	0.09	0.06	0.01	0.01	0.01
68	0.04	0.03	0.04	0.03	0.04	0.03	0.01	0.01	0.01
69	0.15	0.11	0.15	0.11	0.15	0.11	0.02	0.02	0.02
70	0.13	0.10	0.13	0.10	0.13	0.10	0.01	0.01	0.01
71	0.03	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.00
72	0.02	0.01	0.02	0.01	0.02	0.01	0.00	0.00	0.00

TABLE 11
(Continued)

DISSOLVED OXYGEN DEFICIT FROM OTHER SOURCES OF DISSOLVED OXYGEN DEFICIT
- 1985 and 1995 -

Response in Segment	No Project		Swamp Loads Deep Water Discharge		DP 31 Discharge		Urban Runoff		
	Dry and Canning Seasons	Wet Season	Dry and Canning Seasons	Wet Season	Dry and Canning Seasons	Wet Season	No Project Wet Season	Deep Water Discharge Wet Season	DP 31 Discharge Wet Season
73	0.08	0.08	0.09	0.08	0.09	0.07	0.01	0.01	0.01
74	0.05	0.05	0.05	0.05	0.05	0.05	0.01	0.01	0.01
75	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
76	0.03	0.03	0.03	0.03	0.03	0.03	0.01	0.01	0.00
77	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00
78	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00
81	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
82	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
83	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
98	1.94	0.00	2.03	0.00	2.03	0.00	0.50	0.50	0.45
99	3.08	0.14	3.24	0.14	3.24	0.14	0.91	0.91	0.82
100	4.28	1.09	4.52	1.15	4.52	1.15	1.03	1.04	0.94
101	4.88	1.92	4.87	2.07	4.87	2.07	0.77	0.79	0.71
102	3.36	1.79	3.79	2.04	3.79	2.04	0.42	0.45	0.40
103	0.00	0.00	5.73	0.19	5.73	0.19	0.00	0.41	0.36
104	0.00	0.00	4.62	0.49	4.62	0.49	0.00	0.76	0.68
105	0.00	0.00	2.49	0.71	2.49	0.71	0.00	0.74	0.67
106	0.02	0.01	1.91	0.81	1.91	0.81	0.01	0.65	0.58
107	0.05	0.03	1.63	0.81	1.63	0.81	0.03	0.55	0.50
108	0.07	0.04	1.50	0.81	1.50	0.81	0.04	0.48	0.43

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TABLE 11
(Continued)

DISSOLVED OXYGEN DEFICIT FROM OTHER SOURCES OF DISSOLVED OXYGEN DEFICIT
- 1985 and 1995 -

Response in Segment	No Project		Swamp Loads Deep Water Discharge		DP 31 Discharge		Urban Runoff		
	Dry and Canning Seasons	Wet Season	Dry and Canning Seasons	Wet Season	Dry and Canning Seasons	Wet Season	No Project Wet Season	Deep Water Discharge Wet Season	DP 31 Discharge Wet Season
109	0.10	0.07	1.45	0.83	1.45	0.83	0.06	0.42	0.38
110	0.15	0.11	1.42	0.85	1.42	0.85	0.08	0.35	0.32
111	0.31	0.22	1.43	0.89	1.43	0.89	0.10	0.29	0.26
112	0.60	0.41	1.45	0.92	1.45	0.92	0.13	0.24	0.21
113	1.48	0.59	1.50	0.61	1.50	0.61	0.39	0.38	0.34
114	1.18	0.63	1.20	0.65	1.20	0.65	0.30	0.30	0.26
115	1.02	0.61	1.04	0.64	1.04	0.65	0.21	0.20	0.18
116	0.98	0.61	1.01	0.65	1.01	0.65	0.17	0.16	0.15
117	0.94	0.59	0.97	0.64	0.97	0.64	0.14	0.13	0.12
118	7.88	6.88	7.87	6.87	7.87	6.88	0.75	0.75	0.67
119	4.99	2.85	4.97	2.84	4.97	2.84	0.27	0.27	0.24
120	1.94	1.18	1.90	1.16	1.90	1.16	0.11	0.10	0.09
121	0.64	0.26	0.77	0.30	0.77	0.30	0.81	0.84	0.76
122	0.66	0.39	1.01	0.61	1.01	0.61	0.30	0.44	0.39
123	0.50	0.35	0.51	0.39	0.51	0.39	0.22	0.22	0.20
124	0.43	0.32	0.38	0.32	0.38	0.32	0.14	0.12	0.10
125	0.40	0.30	0.37	0.29	0.37	0.29	0.07	0.05	0.05
126	5.28	2.46	5.28	2.46	5.28	2.46	0.67	0.67	0.60
127	1.63	1.09	1.62	1.07	1.62	1.07	0.16	0.16	0.14
128	1.57	0.97	1.56	0.96	1.56	0.96	0.05	0.05	0.05
129	6.59	1.23	6.59	1.23	6.59	1.23	0.84	0.84	0.75
130	6.64	4.36	6.64	4.36	6.64	4.36	0.70	0.70	0.63
131	6.08	5.84	6.08	5.84	6.05	5.84	0.35	0.35	0.32
132	4.84	2.76	4.83	2.76	4.93	2.76	0.12	0.1[illegible]	0.10
133	2.20	1.24	2.19	1.23	2.19	1.24	0.05	0.0[illegible]	0.05
134	1.29	0.75	1.28	0.74	1.29	0.74	0.04	0.04	0.04
135	0.59	0.35	0.65	0.39	0.65	0.39	0.10	0.11	0.10
136	0.61	0.37	0.64	0.40	0.64	0.40	0.09	0.10	0.09
137	0.60	0.38	0.62	0.39	0.62	0.39	0.08	0.08	0.07
138	0.60	0.39	0.60	0.39	0.60	0.39	0.06	0.06	0.06
139	0.58	0.39	0.57	0.38	0.57	0.38	0.05	0.05	0.05
140	0.72	0.41	0.70	0.40	0.70	0.40	0.12	0.11	0.10
141	0.53	0.34	0.51	0.33	0.51	0.33	0.06	0.06	0.05

APPENDIX C

TABULAR RESULTS OF DISSOLVED OXYGEN PROJECTION ANALYSIS

TABLE 1

DISSOLVED OXYGEN CALCULATED
NO PROJECT - 1985 - DRY SEASON

	DO DEFICIT COMPONENTS (MG/L)							DO (MG/L)		
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
1	2.09	0.00	0.33	0.90	0.00	3.34	8.71	5.37	3.79	6.44
2	1.52	0.00	0.33	0.93	0.00	2.79	8.53	5.73	4.33	6.35
3	0.92	0.00	0.33	0.82	0.00	2.08	8.33	6.25	5.07	6.26
4	0.63	0.00	0.32	0.73	0.00	1.70	8.20	6.49	5.44	6.19
5	0.43	0.00	0.32	0.70	0.00	1.46	8.05	6.58	5.60	6.12
6	0.27	0.00	0.33	0.68	0.00	1.30	7.93	6.63	5.70	6.06
7	0.18	0.01	0.32	0.55	0.00	1.09	7.84	6.75	5.88	6.02
8	0.16	0.01	0.33	0.52	0.00	1.03	7.80	6.76	5.92	6.00
9	0.12	0.03	0.32	0.50	0.00	0.99	7.86	6.87	6.04	6.03
10	0.12	0.03	0.32	0.49	0.00	0.98	7.87	6.88	6.05	6.03
11	0.11	0.04	0.32	0.50	0.00	0.99	7.83	6.83	6.00	6.02
12	0.11	0.04	0.32	0.50	0.00	0.98	7.83	6.84	6.01	6.02
13	0.09	0.06	0.33	0.51	0.00	1.00	7.79	6.78	5.95	6.00
14	0.10	0.05	0.33	0.50	0.00	0.99	7.79	6.80	5.97	6.00
15	0.10	0.05	0.32	0.46	0.00	0.94	7.80	6.86	6.04	6.00
16	0.10	0.06	0.33	0.54	0.00	1.05	7.78	6.73	5.88	5.99
17	0.10	0.07	0.33	0.52	0.00	1.03	7.79	6.75	5.91	6.00
18	0.10	0.06	0.31	0.47	0.00	0.96	7.79	6.83	6.01	6.00
19	0.10	0.07	0.33	0.56	0.00	1.08	7.78	6.69	5.83	5.99
20	0.11	0.08	0.33	0.54	0.00	1.07	7.78	6.71	5.85	5.99
21	0.10	0.06	0.31	0.47	0.00	0.96	7.79	6.82	6.00	6.00
22	0.11	0.08	0.34	0.60	0.00	1.14	7.78	6.63	5.75	5.99
23	0.13	0.11	0.35	0.57	0.00	1.17	7.77	6.59	5.70	5.99
24	0.12	0.08	0.32	0.51	0.00	1.05	7.78	6.72	5.87	5.99
25	0.14	0.13	0.37	0.61	0.00	1.26	7.76	6.49	5.58	5.98
26	0.14	0.14	0.38	0.60	0.00	1.27	7.76	6.48	5.56	5.98
27	0.19	0.12	0.36	0.57	0.00	1.26	7.77	6.51	5.60	5.99
28	0.13	[illegible]	0.39	0.61	0.00	1.32	7.75	6.42	5.49	5.98
29	0.12	[illegible]	0.42	0.60	0.00	1.35	7.86	6.51	5.57	6.03
30	0.08	0.25	0.46	0.53	0.00	1.35	7.83	6.48	5.54	6.02
31	0.09	0.25	0.45	0.54	0.00	1.34	7.84	6.49	5.55	6.02
32	0.05	0.22	0.45	0.36	0.00	1.30	7.82	6.52	5.59	6.01
33	0.05	0.27	0.49	0.44	0.00	1.27	7.81	6.54	5.62	6.01
34	0.05	0.30	0.48	0.46	0.00	1.31	7.81	6.49	5.56	6.01
35	0.05	0.31	0.48	0.44	0.00	1.30	7.80	6.50	5.58	6.00
36	0.03	0.26	0.49	0.64	0.00	1.44	7.80	6.36	5.38	6.00

TABLE 1

DISSOLVED OXYGEN CALCULATED
NO PROJECT - 1985 - DRY SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L)							DO (MG/L)		
	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	90TH PERCENTILE DO STANDARD
37	0.04	0.24	0.50	0.41	0.00	1.22	7.81	6.58	5.68	6.01
38	0.05	0.30	0.50	0.44	0.00	1.30	7.81	6.50	5.57	6.01
39	0.02	0.34	0.50	0.32	0.00	1.19	7.78	6.58	5.69	5.99
40	0.02	0.28	0.50	0.67	0.00	1.49	7.79	6.29	5.30	6.00
41	0.04	0.22	0.51	0.45	0.00	1.23	7.80	6.57	5.66	6.00
42	0.04	0.31	0.52	0.43	0.00	1.30	7.80	6.49	5.56	6.00
43	0.01	0.34	0.50	0.25	0.00	1.12	7.78	6.65	5.78	5.99
44	0.01	0.26	0.49	0.56	0.00	1.33	7.78	6.44	5.50	5.99
45	0.03	0.24	0.51	0.37	0.00	1.16	7.80	6.63	5.75	6.00
46	0.02	0.31	0.52	0.32	0.00	1.20	7.79	6.59	5.69	6.00
47	0.00	0.32	0.50	0.19	0.00	1.03	7.77	6.74	5.90	5.99
48	0.00	0.24	0.48	0.35	0.00	1.09	7.78	6.69	5.82	5.99
49	0.02	0.21	0.50	0.36	0.00	1.11	7.79	6.68	5.81	6.00
50	0.02	0.30	0.53	0.30	0.00	1.16	7.78	6.61	5.73	5.99
51	0.00	0.28	0.50	0.16	0.00	0.96	7.77	6.81	5.94	5.99
52	0.00	0.23	0.49	0.22	0.00	0.96	7.77	6.81	5.99	5.99
53	0.02	0.19	0.50	0.36	0.00	1.08	7.78	6.70	5.84	5.99
54	0.02	0.25	0.53	0.32	0.00	1.13	7.75	6.62	5.74	5.98
55	0.00	0.26	0.49	0.14	0.00	0.91	7.77	6.86	6.06	5.99
56	0.00	0.22	0.51	0.15	0.00	0.89	7.77	6.87	6.07	5.99
57	0.01	0.20	0.56	0.31	0.00	1.10	7.48	6.38	5.52	5.95
58	0.02	0.29	0.66	0.39	0.00	1.37	7.38	6.00	5.04	5.80
59	0.00	0.20	0.48	0.11	0.00	0.81	7.78	6.96	6.18	5.99
60	0.00	0.17	0.51	0.09	0.00	0.78	7.75	6.97	6.21	5.98
61	0.01	0.14	0.50	0.24	0.00	0.90	7.49	6.58	5.78	5.86
62	0.00	0.10	0.33	0.15	0.00	0.59	8.10	7.59	6.89	6.18
63	0.00	0.19	0.48	0.11	0.00	0.79	7.78	6.98	6.22	5.99
64	0.00	0.15	0.57	0.05	0.00	0.79	7.72	6.92	6.16	5.96
65	0.00	0.12	0.49	0.19	0.00	0.82	7.52	6.70	5.92	5.97
66	0.00	0.10	0.44	0.15	0.00	0.71	7.87	7.15	6.41	6.03
67	0.00	0.22	0.47	0.09	0.00	0.79	7.76	6.96	6.20	5.98
68	0.00	0.18	0.61	0.04	0.00	0.84	7.71	6.86	6.07	5.96
69	0.00	0.10	0.50	0.15	0.00	0.77	7.82	7.05	6.29	6.01
70	0.00	0.13	0.49	0.13	0.00	0.76	8.00	7.24	6.48	6.10
71	0.00	0.30	0.47	0.03	0.00	0.81	7.96	7.14	6.37	6.08
72	0.00	0.27	0.58	0.02	0.00	0.87	7.94	7.06	6.27	6.07

TABLE 1

DISSOLVED OXYGEN CALCULATED
NO PROJECT - 1985 - DRY SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO (MG/L) DO	90TH PERCENTILE DO	DO STANDARD
73	0.00	0.12	0.51	0.09	0.00	0.74	7.83	7.09	6.35	6.02
74	0.00	0.25	0.45	0.05	0.00	0.77	7.93	7.16	6.40	6.06
75	0.00	0.37	0.44	0.01	0.00	0.84	7.94	7.10	6.32	6.07
76	0.00	0.35	0.45	0.03	0.00	0.84	7.91	7.06	6.20	6.05
77	0.00	0.44	0.41	0.02	0.00	0.87	7.92	7.04	6.25	6.06
78	0.00	0.50	0.34	0.01	0.00	0.86	7.94	7.08	6.29	6.07
79	0.00	0.21	0.40	0.00	0.00	0.62	7.94	7.32	6.61	6.07
80	0.00	0.44	0.44	0.02	0.00	0.91	7.92	7.01	6.21	6.06
81	0.00	0.51	0.34	0.01	0.00	0.87	7.94	7.06	6.27	6.07
82	0.00	0.54	0.25	0.01	0.00	0.81	7.95	7.14	6.37	6.07
83	0.00	0.52	0.24	0.01	0.00	0.78	7.95	7.17	6.41	6.07
84	0.00	0.52	0.20	0.00	0.00	0.73	7.96	7.23	6.48	6.08
85	0.00	0.50	0.16	0.00	0.00	0.68	7.96	7.28	6.55	6.08
86	0.00	0.48	0.16	0.00	0.00	0.65	7.96	7.31	6.58	6.08
87	0.00	0.24	0.02	0.00	0.00	0.26	8.09	7.82	7.23	6.14
88	0.00	0.48	0.12	0.00	0.00	0.61	8.12	7.51	6.88	6.16
89	0.00	0.36	0.10	0.00	0.00	0.46	8.12	7.65	6.99	6.16
90	0.00	0.21	0.02	0.00	0.00	0.23	8.13	7.89	7.30	6.16
91	0.00	0.28	0.06	0.00	0.00	0.35	8.14	7.79	7.16	6.17
92	0.00	0.22	0.05	0.00	0.00	0.28	8.13	7.85	7.24	6.16
93	0.00	0.12	0.02	0.00	0.00	0.14	8.10	7.95	7.39	6.14
94	0.00	0.04	0.00	0.00	0.00	0.05	8.22	8.16	7.64	6.20
95	0.00	0.14	0.02	0.00	0.00	0.17	8.20	8.03	7.47	6.19
96	0.00	0.08	0.01	0.00	0.00	0.10	8.20	8.10	7.56	6.19
97	0.00	0.08	0.01	0.00	0.00	0.09	8.10	8.00	7.46	6.14
98	0.37	0.00	0.20	1.94	0.00	2.52	8.71	6.19	4.87	6.44
99	0.65	0.00	0.09	3.08	0.00	3.84	8.71	4.87	3.13	6.44
100	1.04	0.00	0.24	4.28	0.00	5.57	8.71	3.14	0.85	6.44
101	1.34	0.00	0.29	4.55	0.00	6.19	8.71	2.52	0.02	6.44
102	1.74	0.00	0.38	3.36	0.00	5.49	8.71	3.21	0.94	6.44
103	4.18	0.00	0.00	0.00	0.00	4.18	8.25	4.06	2.21	6.22
104	4.18	0.00	0.02	0.00	0.00	4.20	8.25	4.04	2.19	6.22
105	4.16	0.00	0.03	0.00	0.00	4.20	8.40	4.19	2.33	6.29
106	4.04	0.00	0.10	0.02	0.00	4.16	8.40	4.23	2.38	6.29
107	3.83	0.00	0.21	0.05	0.00	4.10	8.40	4.30	2.47	6.29
108	3.62	0.00	0.24	0.07	0.00	3.95	8.55	4.60	2.02	6.36

TABLE 1

DISSOLVED OXYGEN CALCULATED
NO PROJECT - 1985 - DRY SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO (MG/L) DO	90TH PERCENTILE DO	DO STANDARD
109	3.53	0.00	0.28	0.10	0.00	3.92	8.55	4.63	2.86	6.36
110	3.41	0.00	0.30	0.15	0.00	3.87	8.55	4.67	2.92	6.36
111	3.16	0.00	0.33	0.31	0.00	3.81	8.68	4.87	3.13	6.42
112	2.70	0.00	0.34	0.60	0.00	3.65	8.62	4.97	3.29	6.39
113	0.51	0.00	0.85	1.48	0.00	2.84	8.33	5.49	4.07	6.26
114	0.57	0.00	0.64	1.18	0.00	2.40	8.33	5.93	4.65	6.26
115	0.63	0.00	0.48	1.02	0.00	2.14	8.33	6.19	4.99	6.26
116	0.70	0.00	0.43	0.98	0.00	2.13	8.33	6.20	5.00	6.26
117	0.79	0.00	0.40	0.94	0.00	2.13	8.33	6.20	5.08	6.26
118	0.05	0.00	0.85	7.08	0.00	7.98	7.93	-0.05	0.00	6.06
119	0.09	0.00	0.24	4.99	0.00	5.34	7.93	2.58	0.36	6.06
120	0.20	0.00	0.38	1.94	0.00	2.53	7.93	5.39	4.07	6.06
121	0.59	0.00	0.96	0.64	0.00	2.20	8.73	6.53	5.31	6.45
122	1.67	0.00	1.40	0.66	0.00	3.73	8.73	4.99	3.28	6.45
123	0.89	0.00	0.97	0.50	0.00	2.37	8.51	6.13	4.85	6.39
124	0.49	0.00	0.56	0.43	0.00	1.49	8.19	6.70	5.71	6.19
125	0.23	0.00	0.44	0.40	0.00	1.09	7.95	6.85	5.99	6.07
126	0.00	0.00	0.02	5.28	0.00	5.31	7.65	2.33	0.12	5.93
127	0.01	0.00	0.26	1.63	0.00	1.92	7.65	5.73	4.60	5.93
128	0.04	0.02	0.41	1.57	0.00	2.06	7.65	5.59	4.42	5.93
129	0.00	0.00	0.00	6.59	0.00	6.60	7.65	1.04	0.00	5.93
130	0.00	0.00	0.01	6.64	0.00	6.66	7.65	0.98	0.00	5.93
131	0.00	0.00	0.05	6.08	0.00	6.15	7.65	1.49	0.00	5.93
132	0.02	0.01	0.32	4.84	0.00	5.20	7.65	2.44	0.26	5.93
133	0.05	0.03	0.59	2.20	0.00	2.89	7.65	4.75	3.31	5.93
134	0.08	0.05	0.50	1.29	0.00	1.95	7.65	5.69	4.56	5.93
135	1.46	0.04	0.32	0.59	0.00	2.42	7.87	5.44	4.16	6.04
136	1.15	0.05	0.36	0.61	0.00	2.18	7.80	5.61	4.40	6.00
137	0.81	0.07	0.37	0.60	0.00	1.87	7.73	5.86	4.75	5.97
138	0.54	0.09	0.37	0.60	0.00	1.61	7.69	6.08	5.05	5.95
139	0.32	0.10	0.37	0.58	0.00	1.39	7.66	6.26	5.30	5.94
140	0.06	0.02	0.40	0.72	0.00	1.21	7.67	6.45	5.55	5.94
141	0.08	0.03	0.37	0.53	0.00	1.02	7.67	6.64	5.80	5.94

TABLE 2

DISSOLVED OXYGEN CALCULATED
NO PROJECT - 1985 - CANNING SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
1	2.43	0.00	0.33	0.90	0.00	3.68	8.71	5.03	3.35	6.44
2	1.89	0.00	0.33	0.93	0.00	3.15	8.53	5.37	3.85	6.35
3	1.20	0.00	0.33	0.82	0.00	2.36	8.33	5.97	4.71	6.26
4	0.85	0.00	0.32	0.73	0.00	1.92	8.20	6.27	5.15	6.19
5	0.59	0.00	0.32	0.70	0.00	1.62	8.05	6.42	5.39	6.12
6	0.39	0.00	0.33	0.68	0.00	1.41	7.93	6.51	5.55	6.06
7	0.26	0.01	0.32	0.55	0.00	1.17	7.84	6.67	5.78	6.02
8	0.23	0.01	0.33	0.52	0.00	1.10	7.80	6.70	5.83	6.00
9	0.16	0.03	0.32	0.50	0.00	1.03	7.86	6.82	5.98	6.03
10	0.16	0.03	0.32	0.49	0.00	1.02	7.87	6.84	6.00	6.03
11	0.14	0.04	0.32	0.50	0.00	1.02	7.83	6.80	5.96	6.02
12	0.14	0.04	0.32	0.50	0.00	1.01	7.83	6.81	5.97	6.02
13	0.11	0.06	0.33	0.51	0.00	1.02	7.79	6.77	5.95	6.00
14	0.12	0.05	0.33	0.50	0.00	1.01	7.79	6.78	5.94	6.00
15	0.12	0.05	0.32	0.46	0.00	0.96	7.80	6.84	6.02	6.00
16	0.12	0.06	0.33	0.54	0.00	1.07	7.78	6.71	5.86	5.99
17	0.12	0.07	0.33	0.52	0.00	1.05	7.79	6.74	5.89	6.00
18	0.12	0.06	0.31	0.47	0.00	0.97	7.79	6.81	5.98	6.00
19	0.12	0.07	0.33	0.56	0.00	1.10	7.78	6.68	5.81	5.99
20	0.13	0.08	0.33	0.54	0.00	1.09	7.78	6.69	5.83	5.99
21	0.12	0.06	0.31	0.47	0.00	0.98	7.79	6.81	5.98	6.00
22	0.13	0.08	0.34	0.60	0.00	1.16	7.78	6.62	5.73	5.99
23	0.14	0.11	0.35	0.57	0.00	1.19	7.77	6.58	5.68	5.99
24	0.14	0.08	0.32	0.51	0.00	1.07	7.78	6.71	5.85	5.99
25	0.15	0.13	0.37	0.61	0.00	1.28	7.76	6.48	5.55	5.98
26	0.15	0.14	0.38	0.60	0.00	1.29	7.76	6.46	5.53	5.98
27	0.21	0.12	0.36	0.57	0.00	1.27	7.77	6.50	5.58	5.99
28	0.15	0.17	0.39	0.61	0.00	1.35	7.75	6.41	5.47	5.98
29	0.13	0.20	0.42	0.60	0.00	1.36	7.86	6.50	5.55	6.03
30	0.09	0.25	0.46	0.53	0.00	1.35	7.83	6.47	5.53	6.02
31	0.10	0.25	0.45	0.54	0.00	1.35	7.84	6.48	5.55	6.02
32	0.05	0.22	0.45	0.56	0.00	1.30	7.82	6.51	5.58	6.01
33	0.06	0.27	0.49	0.44	0.00	1.27	7.81	6.53	5.61	6.01
34	0.06	0.30	0.48	0.46	0.00	1.32	7.81	6.49	5.55	6.01
35	0.05	0.31	0.48	0.44	0.00	1.30	7.80	6.50	5.57	6.00
36	0.04	0.26	0.49	0.64	0.00	1.44	7.80	6.35	5.38	6.00

TABLE 2

DISSOLVED OXYGEN CALCULATED
NO PROJECT - 1985 - CANNING SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
37	0.05	0.24	0.50	0.41	0.00	1.22	7.81	6.58	5.67	6.01
38	0.05	0.30	0.50	0.44	0.00	1.31	7.81	6.49	5.56	6.01
39	0.02	0.34	0.50	0.32	0.00	1.20	7.78	6.58	5.68	5.99
40	0.02	0.28	0.50	0.67	0.00	1.49	7.79	6.29	5.30	6.00
41	0.04	0.22	0.51	0.45	0.00	1.24	7.80	6.56	5.66	6.00
42	0.05	0.31	0.52	0.43	0.00	1.31	7.80	6.49	5.55	6.00
43	0.01	0.34	0.50	0.25	0.00	1.12	7.78	6.65	5.78	5.99
44	0.01	0.26	0.49	0.56	0.00	1.33	7.78	6.44	5.58	5.99
45	0.03	0.24	0.51	0.37	0.00	1.16	7.80	6.63	5.74	6.00
46	0.03	0.31	0.52	0.32	0.00	1.20	7.79	6.58	5.69	6.00
47	0.00	0.32	0.50	0.19	0.00	1.03	7.77	6.74	5.90	5.99
48	0.00	0.24	0.48	0.35	0.00	1.09	7.78	6.68	5.82	5.99
49	0.03	0.21	0.50	0.36	0.00	1.11	7.79	6.67	5.80	6.00
50	0.02	0.30	0.53	0.30	0.00	1.17	7.78	6.61	5.72	5.99
51	0.00	0.28	0.50	0.16	0.00	0.96	7.77	6.81	5.99	5.99
52	0.00	0.23	0.49	0.22	0.00	0.96	7.77	6.81	5.99	5.99
53	0.02	0.19	0.50	0.36	0.00	1.08	7.78	6.70	5.84	5.99
54	0.02	0.25	0.53	0.32	0.00	1.14	7.75	6.61	5.74	5.98
55	0.00	0.26	0.49	0.14	0.00	0.91	7.77	6.86	6.06	5.99
56	0.00	0.22	0.51	0.15	0.00	0.89	7.77	6.87	6.07	5.99
57	0.01	0.20	0.56	0.31	0.00	1.10	7.48	6.38	5.51	5.85
58	0.02	0.29	0.66	0.39	0.00	1.38	7.38	5.99	5.04	5.80
59	0.00	0.20	0.48	0.11	0.00	0.81	7.78	6.96	6.18	5.99
60	0.00	0.17	0.51	0.09	0.00	0.78	7.75	6.97	6.20	5.98
61	0.01	0.14	0.50	0.24	0.00	0.90	7.49	6.58	5.70	5.86
62	0.00	0.10	0.33	0.15	0.00	0.59	8.18	7.59	6.89	6.18
63	0.00	0.19	0.48	0.11	0.00	0.79	7.78	6.98	6.22	5.99
64	0.00	0.15	0.57	0.05	0.00	0.79	7.72	6.92	6.16	5.96
65	0.00	0.12	0.49	0.19	0.00	0.82	7.52	6.69	5.92	5.87
66	0.00	0.10	0.44	0.15	0.00	0.71	7.87	7.15	6.41	6.03
67	0.00	0.22	0.47	0.09	0.00	0.79	7.76	6.96	6.20	5.98
68	0.00	0.18	0.61	0.04	0.00	0.84	7.71	6.86	6.07	5.96
69	0.00	0.10	0.50	0.15	0.00	0.77	7.82	7.05	6.29	6.01
70	0.00	0.13	0.49	0.13	0.00	0.76	8.00	7.24	6.48	6.10
71	0.00	0.30	0.47	0.03	0.00	0.81	7.96	7.14	6.37	6.08
72	0.00	0.27	0.58	0.02	0.00	0.87	7.94	7.06	6.27	6.07

TABLE 2

DISSOLVED OXYGEN CALCULATED
NO PROJECT - 1985 - CANNING SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
73	0.00	0.12	0.51	0.09	0.00	0.74	7.83	7.09	6.34	6.02
74	0.00	0.25	0.45	0.05	0.00	0.77	7.93	7.16	6.40	6.06
75	0.00	0.37	0.44	0.01	0.00	0.84	7.94	7.10	6.32	6.07
76	0.00	0.35	0.45	0.03	0.00	0.84	7.91	7.06	6.28	6.05
77	0.00	0.44	0.41	0.02	0.00	0.87	7.92	7.04	6.25	6.06
78	0.00	0.50	0.34	0.01	0.00	0.86	7.94	7.08	6.29	6.07
79	0.00	0.21	0.40	0.00	0.00	0.62	7.94	7.32	6.61	6.07
80	0.00	0.44	0.44	0.02	0.00	0.91	7.92	7.01	6.21	6.06
81	0.00	0.51	0.34	0.01	0.00	0.87	7.94	7.06	6.27	6.07
82	0.00	0.54	0.25	0.01	0.00	0.81	7.95	7.14	6.37	6.07
83	0.00	0.52	0.24	0.01	0.00	0.78	7.95	7.17	6.41	6.07
84	0.00	0.52	0.20	0.00	0.00	0.73	7.96	7.23	6.48	6.08
85	0.00	0.50	0.16	0.00	0.00	0.68	7.96	7.28	6.55	6.05
86	0.00	0.48	0.16	0.00	0.00	0.65	7.96	7.31	6.58	6.08
87	0.00	0.24	0.02	0.00	0.00	0.26	8.09	7.82	7.23	6.14
88	0.00	0.48	0.12	0.00	0.00	0.61	8.12	7.51	6.80	6.16
89	0.00	0.36	0.10	0.00	0.00	0.46	8.12	7.65	6.99	6.16
90	0.00	0.21	0.02	0.00	0.00	0.23	8.13	7.89	7.30	6.16
91	0.00	0.28	0.06	0.00	0.00	0.35	8.14	7.79	7.16	6.17
92	0.00	0.22	0.05	0.00	0.00	0.28	8.13	7.85	7.24	6.16
93	0.00	0.12	0.02	0.00	0.00	0.14	8.10	7.95	7.39	6.14
94	0.00	0.04	0.00	0.00	0.00	0.05	8.22	8.16	7.64	6.20
95	0.00	0.14	0.02	0.00	0.00	0.17	8.20	8.03	7.47	6.19
96	0.00	0.08	0.01	0.00	0.00	0.10	8.20	8.10	7.56	6.19
97	0.00	0.08	0.01	0.00	0.00	0.09	8.10	8.00	7.46	6.14
98	0.43	0.00	0.20	1.94	0.00	2.58	8.71	6.13	4.78	6.44
99	0.76	0.00	0.09	3.08	0.00	3.94	8.71	4.77	2.99	6.44
100	1.21	0.00	0.24	4.28	0.00	5.74	8.71	2.97	0.62	6.44
101	1.57	0.00	0.29	4.55	0.00	6.42	8.71	2.29	0.00	6.44
102	2.03	0.00	0.38	3.36	0.00	5.78	8.71	2.93	0.56	6.44
103	4.00	0.00	0.00	0.00	0.00	4.01	8.25	4.24	2.44	6.22
104	4.00	0.00	0.02	0.00	0.00	4.03	8.25	4.22	2.42	6.22
105	3.99	0.00	0.03	0.00	0.00	4.03	8.40	4.36	2.56	6.29
106	3.90	0.00	0.10	0.02	0.00	4.03	8.40	4.36	2.56	6.29
107	3.72	0.00	0.21	0.05	0.00	3.98	8.40	4.41	2.62	6.29
108	3.58	0.00	0.24	0.07	0.00	3.91	8.55	4.64	2.88	6.36

TABLE 2

DISSOLVED OXYGEN CALCULATED
NO PROJECT - 1985 - CANNING SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DD	90TH PERCENTILE DO	DO STANDARD
109	3.52	0.00	0.28	0.10	0.00	3.91	8.55	4.64	2.07	6.36
110	3.45	0.00	0.30	0.15	0.00	3.91	8.55	4.63	2.06	6.36
111	3.33	0.00	0.33	0.31	0.00	3.98	8.68	4.70	2.91	6.42
112	3.00	0.00	0.34	0.60	0.00	3.95	8.62	4.67	2.89	6.39
113	0.67	0.00	0.83	1.48	0.00	2.99	8.33	5.34	3.86	6.26
114	0.76	0.00	0.64	1.18	0.00	2.58	8.33	5.75	4.42	6.26
115	0.82	0.00	0.48	1.02	0.00	2.34	8.33	5.99	4.73	6.26
116	0.92	0.00	0.43	0.98	0.00	2.35	8.33	5.98	4.72	6.26
117	1.03	0.00	0.40	0.94	0.00	2.37	8.33	5.96	4.69	6.26
118	0.07	0.00	0.05	7.88	0.00	8.00	7.93	-0.07	0.00	6.06
119	0.13	0.00	0.24	4.99	0.00	5.38	7.93	2.54	0.30	6.06
120	0.28	0.00	0.38	1.94	0.00	2.62	7.93	5.31	3.96	6.06
121	0.87	0.00	0.96	0.64	0.00	2.48	8.73	6.25	4.94	6.45
122	2.46	0.00	1.40	0.66	0.00	4.52	8.73	4.21	2.25	6.45
123	1.50	0.00	0.97	0.50	0.00	2.98	8.51	5.52	4.05	6.34
124	0.90	0.00	0.56	0.43	0.00	1.90	8.19	6.28	5.16	6.19
125	0.42	0.00	0.44	0.40	0.00	1.28	7.95	6.67	5.75	6.07
126	0.00	0.00	0.02	5.28	0.00	5.32	7.65	2.33	0.12	5.93
127	0.02	0.00	0.26	1.63	0.00	1.92	7.65	5.73	4.60	5.93
128	0.05	0.02	0.41	1.57	0.00	2.06	7.65	5.59	4.41	5.93
129	0.00	0.00	0.00	6.59	0.00	6.60	7.65	1.04	0.00	5.93
130	0.00	0.00	0.01	6.64	0.00	6.66	7.65	0.98	0.00	5.93
131	0.01	0.00	0.05	6.08	0.00	6.15	7.65	1.49	0.00	5.93
132	0.02	0.01	0.32	4.84	0.00	5.21	7.65	2.44	0.26	5.93
133	0.06	0.03	0.59	2.20	0.00	2.90	7.65	4.74	3.30	5.93
134	0.09	0.05	0.50	1.29	0.00	1.96	7.65	5.68	4.54	5.93
135	1.47	0.04	0.32	0.59	0.00	2.43	7.87	5.44	4.15	6.04
136	1.16	0.05	0.36	0.61	0.00	2.19	7.80	5.60	4.39	6.00
137	0.82	0.07	0.37	0.60	0.00	1.88	7.73	5.85	4.74	5.97
138	0.55	0.09	0.37	0.60	0.00	1.62	7.69	6.06	5.03	5.95
139	0.34	0.10	0.37	0.58	0.00	1.41	7.66	6.25	5.29	5.94
140	0.07	0.02	0.40	0.72	0.00	1.22	7.67	6.44	5.53	5.94
141	0.09	0.03	0.37	0.53	0.00	1.04	7.67	6.62	5.78	5.94

TABLE 3

DISSOLVED OXYGEN CALCULATED
NO PROJECT - 1985 - WET SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)			
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
1	2.04	0.00	0.39	0.58	0.15	3.18	10.24	7.05	5.52	7.16
2	1.57	0.00	0.39	0.60	0.13	2.71	10.09	7.37	5.99	7.09
3	1.02	0.00	0.39	0.53	0.10	2.06	9.91	7.84	6.67	7.01
4	0.74	0.00	0.39	0.49	0.08	1.71	9.78	8.06	7.00	6.94
5	0.53	0.00	0.38	0.47	0.06	1.47	9.62	8.15	7.17	6.87
6	0.36	0.01	0.39	0.46	0.05	1.29	9.49	8.20	7.27	6.80
7	0.26	0.02	0.39	0.38	0.04	1.10	9.38	8.27	7.40	6.75
8	0.25	0.02	0.39	0.36	0.04	1.06	9.33	8.27	7.42	6.73
9	0.17	0.04	0.39	0.35	0.03	1.00	9.44	8.43	7.60	6.78
10	0.18	0.04	0.39	0.34	0.03	1.00	9.45	8.44	7.61	6.78
11	0.16	0.05	0.39	0.35	0.03	1.00	9.40	8.39	7.56	6.76
12	0.16	0.05	0.39	0.34	0.03	0.99	9.39	8.40	7.57	6.76
13	0.13	0.07	0.39	0.34	0.03	0.99	9.34	8.34	7.51	6.73
14	0.14	0.07	0.39	0.34	0.03	0.99	9.35	8.35	7.52	6.74
15	0.13	0.06	0.38	0.32	0.03	0.95	9.36	8.40	7.58	6.74
16	0.14	0.08	0.40	0.36	0.04	1.03	9.33	8.30	7.45	6.73
17	0.14	0.08	0.39	0.35	0.04	1.02	9.34	8.31	7.47	6.73
18	0.14	0.08	0.38	0.32	0.03	0.97	9.34	8.37	7.55	6.73
19	0.14	0.09	0.40	0.38	0.04	1.06	9.33	8.26	7.41	6.73
20	0.15	0.09	0.40	0.36	0.04	1.06	9.33	8.27	7.42	6.73
21	0.14	0.08	0.38	0.32	0.03	0.97	9.34	8.36	7.54	6.75
22	0.15	0.10	0.40	0.40	0.04	1.10	9.32	8.22	7.35	6.73
23	0.16	0.13	0.42	0.38	0.04	1.15	9.31	8.16	7.28	6.72
24	0.15	0.10	0.39	0.35	0.04	1.05	9.32	8.27	7.42	6.73
25	0.17	0.15	0.43	0.40	0.05	1.22	9.29	8.06	7.16	6.71
26	0.17	0.16	0.44	0.40	0.05	1.24	9.29	8.04	7.13	6.71
27	0.22	0.13	0.43	0.38	0.05	1.23	9.31	8.08	7.17	6.72
28	0.16	0.19	0.46	0.40	0.05	1.28	9.27	7.99	7.06	6.70
29	0.15	0.22	0.49	0.39	0.05	1.31	9.46	8.14	7.21	6.79
30	0.10	0.27	0.54	0.34	0.05	1.33	9.41	8.08	7.14	6.77
31	0.11	0.27	0.52	0.35	0.05	1.32	9.42	8.09	7.16	6.77
32	0.06	0.25	0.53	0.35	0.04	1.26	9.38	8.12	7.21	6.75
33	0.07	0.29	0.57	0.29	0.04	1.27	9.38	8.10	7.18	6.75
34	0.07	0.31	0.56	0.30	0.04	1.30	9.38	8.07	7.14	6.75
35	0.06	0.33	0.56	0.28	0.04	1.29	9.37	8.08	7.15	6.75
36	0.05	0.29	0.57	0.38	0.05	1.35	9.36	8.00	7.06	6.74

TABLE 3

DISSOLVED OXYGEN CALCULATED
NO PROJECT - 1985 - WET SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)			
									90TH PERCENTILE	
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	DO	DO STANDARD
37	0.06	0.26	0.58	0.27	0.04	1.24	9.38	8.14	7.23	6.75
38	0.06	0.32	0.57	0.29	0.04	1.30	9.37	8.07	7.14	6.75
39	0.03	0.36	0.57	0.21	0.03	1.21	9.33	8.11	7.21	6.73
40	0.03	0.31	0.58	0.40	0.05	1.38	9.34	7.95	7.00	6.74
41	0.05	0.24	0.59	0.28	0.04	1.22	9.37	8.15	7.24	6.75
42	0.06	0.32	0.59	0.27	0.04	1.31	9.36	8.05	7.12	6.74
43	0.01	0.36	0.58	0.16	0.03	1.16	9.32	8.16	7.28	6.72
44	0.02	0.28	0.57	0.33	0.04	1.26	9.33	8.06	7.14	6.73
45	0.04	0.26	0.59	0.24	0.03	1.18	9.36	8.18	7.29	6.74
46	0.03	0.33	0.60	0.21	0.03	1.22	9.34	8.11	7.21	6.73
47	0.01	0.34	0.57	0.12	0.02	1.09	9.31	8.22	7.36	6.72
48	0.01	0.26	0.57	0.21	0.03	1.10	9.32	8.21	7.35	6.72
49	0.03	0.24	0.58	0.23	0.03	1.13	9.36	8.22	7.35	6.74
50	0.03	0.32	0.61	0.19	0.03	1.20	9.34	8.13	7.23	6.73
51	0.01	0.31	0.57	0.11	0.02	1.04	9.31	8.27	7.42	6.72
52	0.01	0.26	0.58	0.14	0.03	1.03	9.31	8.27	7.48	6.72
53	0.03	0.22	0.58	0.22	0.03	1.10	9.35	8.25	7.38	6.74
54	0.03	0.28	0.61	0.20	0.03	1.17	9.31	8.14	7.25	6.72
55	0.01	0.28	0.57	0.10	0.02	0.99	9.31	8.31	7.48	6.72
56	0.00	0.25	0.59	0.10	0.03	1.00	9.30	8.30	7.47	6.72
57	0.02	0.24	0.66	0.20	0.03	1.17	9.03	7.85	6.96	6.59
58	0.03	0.33	0.77	0.25	0.03	1.42	8.91	7.48	6.51	6.55
59	0.00	0.24	0.55	0.08	0.01	0.91	9.31	8.39	7.58	6.72
60	0.00	0.20	0.59	0.06	0.02	0.98	9.28	8.37	7.57	6.71
61	0.02	0.18	0.60	0.16	0.02	1.00	9.04	8.04	7.20	6.59
62	0.01	0.12	0.38	0.10	0.01	0.64	9.80	9.16	8.44	6.95
63	0.00	0.23	0.55	0.08	0.01	0.89	9.32	8.42	7.62	6.72
64	0.00	0.19	0.66	0.04	0.01	0.92	9.23	8.30	7.50	6.68
65	0.01	0.15	0.58	0.14	0.02	0.93	9.08	8.14	7.35	6.61
66	0.01	0.13	0.51	0.11	0.01	0.79	9.46	8.66	7.90	6.79
67	0.00	0.26	0.53	0.06	0.01	0.89	9.27	8.38	7.58	6.70
68	0.00	0.22	0.69	0.03	0.01	0.97	9.21	8.23	7.41	6.67
69	0.01	0.14	0.58	0.11	0.02	0.88	9.11	8.23	7.44	6.63
70	0.01	0.17	0.55	0.10	0.01	0.86	9.28	8.42	7.68	6.71
71	0.00	0.35	0.53	0.03	0.00	0.91	9.16	8.24	7.43	6.65
72	0.00	0.31	0.64	0.01	0.00	0.98	9.13	8.15	7.32	6.64

TABLE 3

DISSOLVED OXYGEN CALCULATED
NO PROJECT - 1985 - WET SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)			
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
73	0.00	0.15	0.58	0.08	0.01	0.84	9.12	8.27	7.49	6.63
74	0.00	0.28	0.51	0.05	0.01	0.87	9.13	8.26	7.46	6.63
75	0.00	0.40	0.49	0.01	0.00	0.92	9.11	8.18	7.37	6.62
76	0.00	0.36	0.50	0.03	0.01	0.91	9.09	8.17	7.36	6.61
77	0.00	0.45	0.45	0.02	0.00	0.94	9.08	8.13	7.32	6.61
78	0.00	0.51	0.37	0.01	0.00	0.91	9.06	8.15	7.35	6.60
79	0.00	0.23	0.45	0.00	0.00	0.69	9.06	8.36	7.63	6.60
80	0.00	0.44	0.48	0.02	0.00	0.97	9.08	8.10	7.28	6.61
81	0.00	0.50	0.38	0.01	0.00	0.91	9.07	8.15	7.35	6.60
82	0.00	0.53	0.28	0.01	0.00	0.83	9.06	8.22	7.44	6.60
83	0.00	0.51	0.27	0.01	0.00	0.80	9.06	8.25	7.48	6.60
84	0.00	0.50	0.22	0.00	0.00	0.74	9.05	8.31	7.56	6.60
85	0.00	0.48	0.19	0.00	0.00	0.69	9.06	8.36	7.63	6.60
86	0.00	0.46	0.18	0.00	0.00	0.66	9.05	8.39	7.66	6.60
87	0.00	0.25	0.02	0.00	0.00	0.28	9.27	8.99	8.39	6.70
88	0.00	0.45	0.13	0.00	0.00	0.61	9.27	8.66	7.95	6.70
89	0.00	0.35	0.11	0.00	0.00	0.47	9.25	8.77	8.11	6.69
90	0.00	0.22	0.02	0.00	0.00	0.25	9.28	9.02	8.43	6.70
91	0.00	0.27	0.07	0.00	0.00	0.34	9.27	8.92	8.30	6.70
92	0.00	0.21	0.05	0.00	0.00	0.28	9.24	8.96	8.35	6.69
93	0.00	0.12	0.02	0.00	0.00	0.15	9.17	9.01	8.45	6.65
94	0.00	0.04	0.01	0.00	0.00	0.05	9.07	9.02	8.49	6.61
95	0.00	0.12	0.02	0.00	0.00	0.15	9.35	9.20	8.64	6.74
96	0.00	0.08	0.01	0.00	0.00	0.09	9.34	9.24	8.69	6.73
97	0.00	0.09	0.01	0.00	0.00	0.11	9.17	9.06	8.51	6.65
98	0.00	0.00	0.06	0.00	0.50	0.57	10.36	9.79	9.09	7.22
99	0.05	0.00	0.06	0.14	0.91	1.17	10.36	9.18	8.29	7.22
100	0.44	0.00	0.21	1.08	1.03	2.79	10.32	7.53	6.12	7.20
101	0.96	0.00	0.31	1.92	0.77	3.97	10.29	6.31	4.53	7.18
102	1.55	0.00	0.44	1.79	0.42	4.22	10.26	6.04	4.18	7.17
103	3.80	0.00	0.00	0.03	0.00	3.81	9.08	5.26	3.53	6.61
104	3.79	0.00	0.02	0.00	0.00	3.83	9.27	5.44	3.70	6.70
105	3.78	0.00	0.03	0.00	0.00	3.83	9.47	5.63	3.89	6.79
106	3.69	0.00	0.12	0.01	0.01	3.84	9.68	5.84	4.09	6.89
107	3.48	0.00	0.25	0.03	0.03	3.79	9.90	6.10	4.37	7.00
108	3.39	0.00	0.29	0.04	0.04	3.73	9.90	6.16	4.46	7.00

TABLE 3

DISSOLVED OXYGEN CALCULATED
NO PROJECT - 1985 - WET SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
109	3.23	0.00	0.33	0.07	0.06	3.70	10.12	6.41	4.72	7.11
110	3.13	0.00	0.36	0.11	0.08	3.69	10.12	6.43	4.73	7.10
111	2.93	0.00	0.39	0.22	0.10	3.66	10.10	6.44	4.75	7.10
112	2.56	0.00	0.40	0.41	0.13	3.51	10.06	6.55	4.91	7.08
113	0.41	0.00	0.75	0.59	0.39	2.16	10.08	7.92	6.71	7.08
114	0.59	0.00	0.70	0.63	0.30	2.23	9.99	7.75	6.52	7.04
115	0.71	0.00	0.56	0.61	0.21	2.11	9.95	7.83	6.64	7.02
116	0.80	0.00	0.51	0.61	0.17	2.11	9.93	7.82	6.63	7.01
117	0.89	0.00	0.47	0.59	0.14	2.11	9.92	7.81	6.62	7.01
118	0.05	0.00	0.85	6.08	0.75	7.75	9.86	2.11	0.00	6.98
119	0.13	0.00	0.28	2.85	0.27	3.55	9.63	6.07	4.42	6.97
120	0.28	0.00	0.45	1.18	0.11	2.03	9.53	7.49	6.33	6.82
121	0.31	0.00	1.02	0.26	0.81	2.41	10.34	7.92	6.63	7.21
122	1.65	0.00	1.64	0.39	0.30	4.00	10.30	6.30	4.51	7.19
123	1.04	0.00	1.17	0.35	0.22	2.79	10.14	7.35	5.94	7.11
124	0.67	0.00	0.68	0.32	0.14	1.84	9.83	7.98	6.88	6.96
125	0.35	0.01	0.53	0.30	0.07	1.27	9.54	8.26	7.34	6.83
126	0.00	0.00	0.02	2.46	0.67	3.16	9.80	6.63	5.11	6.95
127	0.03	0.01	0.30	1.08	0.16	1.59	9.27	7.67	6.65	6.70
128	0.07	0.03	0.48	0.97	0.05	1.61	9.16	7.54	6.51	6.65
129	0.00	0.00	0.00	1.23	0.84	2.08	10.28	8.20	7.02	7.10
130	0.00	0.00	0.00	4.36	0.70	5.09	9.90	4.81	2.67	7.00
131	0.01	0.00	0.06	5.84	0.35	6.27	9.56	3.28	0.76	6.84
132	0.03	0.01	0.37	2.76	0.12	3.31	9.27	5.96	4.30	6.70
133	0.08	0.05	0.67	1.24	0.05	2.11	9.16	7.05	5.86	6.65
134	0.11	0.07	0.58	0.75	0.04	1.57	9.13	7.56	6.54	6.64
135	1.37	0.05	0.37	0.35	0.10	2.26	9.39	7.12	5.89	6.76
136	1.10	0.06	0.42	0.37	0.09	2.06	9.30	7.24	6.06	6.72
137	0.72	0.08	0.44	0.38	0.08	1.70	9.22	7.43	6.35	6.68
138	0.54	0.10	0.44	0.39	0.06	1.55	9.17	7.61	6.60	6.65
139	0.34	0.12	0.43	0.38	0.05	1.35	9.13	7.77	6.82	6.63
140	0.08	0.03	0.45	0.41	0.12	1.11	9.23	8.11	7.25	6.68
141	0.11	0.05	0.43	0.34	0.06	1.01	9.17	8.16	7.32	6.65

TABLE 4

DISSOLVED OXYGEN CALCULATED
NO PROJECT - 1995 - DRY SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
1	2.41	0.00	0.33	0.90	0.00	3.65	8.71	5.06	3.38	6.44
2	1.81	0.00	0.33	0.93	0.00	3.07	8.53	5.45	3.95	6.35
3	1.12	0.00	0.33	0.82	0.00	2.28	8.33	6.05	4.81	6.26
4	0.78	0.00	0.32	0.73	0.00	1.85	8.20	6.34	5.24	6.19
5	0.54	0.00	0.32	0.70	0.00	1.57	8.05	6.48	5.46	6.12
6	0.35	0.00	0.33	0.68	0.00	1.37	7.93	6.55	5.60	6.06
7	0.24	0.01	0.32	0.55	0.00	1.14	7.84	6.70	5.82	6.02
8	0.20	0.01	0.33	0.52	0.00	1.08	7.80	6.72	5.86	6.00
9	0.15	0.03	0.32	0.50	0.00	1.02	7.86	6.84	6.00	6.03
10	0.15	0.03	0.32	0.49	0.00	1.01	7.87	6.85	6.02	6.03
11	0.13	0.04	0.32	0.50	0.00	1.01	7.83	6.81	5.97	6.02
12	0.13	0.04	0.32	0.50	0.00	1.00	7.83	6.82	5.98	6.02
13	0.10	0.06	0.33	0.51	0.00	1.01	7.79	6.77	5.93	6.00
14	0.11	0.05	0.33	0.50	0.00	1.00	7.79	6.79	5.95	6.00
15	0.11	0.05	0.32	0.46	0.00	0.95	7.80	6.84	6.02	6.00
16	0.11	0.06	0.33	0.54	0.00	1.06	7.78	6.72	5.86	5.99
17	0.12	0.07	0.33	0.52	0.00	1.04	7.79	6.74	5.89	6.00
18	0.11	0.06	0.31	0.47	0.00	0.97	7.79	6.81	5.99	6.00
19	0.12	0.07	0.33	0.56	0.00	1.10	7.78	6.68	5.82	5.99
20	0.12	0.08	0.33	0.54	0.00	1.08	7.78	6.69	5.83	5.99
21	0.11	0.06	0.31	0.47	0.00	0.97	7.79	6.81	5.98	6.00
22	0.12	0.08	0.34	0.60	0.00	1.15	7.78	6.62	5.74	5.99
23	0.14	0.11	0.35	0.57	0.00	1.18	7.77	6.58	5.69	5.99
24	0.13	0.08	0.32	0.51	0.00	1.06	7.78	6.71	5.85	5.99
25	0.15	0.13	0.37	0.61	0.00	1.27	7.76	6.48	5.56	5.98
26	0.15	0.14	0.38	0.60	0.00	1.29	7.76	6.46	5.54	5.98
27	0.21	0.12	0.36	0.57	0.00	1.27	7.77	6.50	5.58	5.99
28	0.14	0.17	0.39	0.61	0.00	1.33	7.75	6.41	5.47	5.98
29	0.13	0.20	0.42	0.60	0.00	1.36	7.86	6.50	5.55	6.03
30	0.09	0.25	0.46	0.53	0.00	1.35	7.83	6.48	5.53	6.02
31	0.09	0.25	0.45	0.54	0.00	1.35	7.84	6.48	5.54	6.02
32	0.05	0.22	0.45	0.56	0.00	1.30	7.82	6.51	5.58	6.01
33	0.06	0.27	0.49	0.44	0.00	1.27	7.81	6.53	5.61	6.01
34	0.06	0.30	0.48	0.46	0.00	1.32	7.81	6.49	5.55	6.01
35	0.05	0.31	0.48	0.44	0.00	1.30	7.80	6.50	5.57	6.00
36	0.04	0.26	0.49	0.64	0.00	1.44	7.80	6.35	5.38	6.00

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TABLE 4

DISSOLVED OXYGEN CALCULATED
NO PROJECT - 1995 - DRY SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)		90TH PERCENTILE	
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	DO	DO STANDARD
37	0.05	0.24	0.50	0.41	0.00	1.22	7.81	6.58	5.67	6.01
38	0.05	0.30	0.50	0.44	0.00	1.31	7.81	6.49	5.56	6.01
39	0.02	0.34	0.50	0.32	0.00	1.20	7.78	6.58	5.68	5.99
40	0.02	0.28	0.50	0.67	0.00	1.49	7.79	6.29	5.30	6.00
41	0.04	0.22	0.51	0.45	0.00	1.23	7.80	6.57	5.66	6.00
42	0.05	0.31	0.52	0.43	0.00	1.31	7.80	6.49	5.55	6.00
43	0.01	0.34	0.50	0.25	0.00	1.12	7.78	6.65	5.70	5.99
44	0.01	0.26	0.49	0.56	0.00	1.33	7.78	6.44	5.50	5.99
45	0.03	0.24	0.51	0.37	0.00	1.16	7.80	6.63	5.75	6.00
46	0.03	0.31	0.52	0.32	0.00	1.20	7.79	6.58	5.69	6.00
47	0.00	0.32	0.50	0.19	0.00	1.03	7.77	6.74	5.90	5.99
48	0.00	0.24	0.48	0.35	0.00	1.09	7.78	6.68	5.82	5.99
49	0.02	0.21	0.50	0.36	0.00	1.11	7.79	6.67	5.80	6.00
50	0.02	0.30	0.53	0.30	0.00	1.17	7.78	6.61	5.72	5.99
51	0.00	0.28	0.50	0.16	0.00	0.96	7.77	6.81	5.99	5.99
52	0.00	0.23	0.49	0.22	0.00	0.96	7.77	6.81	5.99	5.99
53	0.02	0.19	0.50	0.36	0.00	1.08	7.78	6.70	5.84	5.99
54	0.02	0.25	0.53	0.32	0.00	1.14	7.75	6.61	5.74	5.98
55	0.00	0.26	0.49	0.14	0.00	0.91	7.77	6.86	6.06	5.99
56	0.00	0.22	0.51	0.15	0.00	0.89	7.77	6.87	6.07	5.99
57	0.01	0.20	0.56	0.31	0.00	1.10	7.48	6.38	5.51	5.85
58	0.02	0.29	0.66	0.39	0.00	1.38	7.38	5.99	5.04	5.80
59	0.00	0.20	0.48	0.11	0.00	0.81	7.78	6.96	6.10	5.99
60	0.00	0.17	0.51	0.09	0.00	0.78	7.75	6.97	6.20	5.98
61	0.01	0.14	0.50	0.24	0.00	0.90	7.49	6.58	5.70	5.86
62	0.00	0.10	0.33	0.15	0.00	0.59	8.18	7.59	6.09	6.18
63	0.00	0.19	0.48	0.11	0.00	0.79	7.78	6.98	6.22	5.99
64	0.00	0.15	0.57	0.05	0.00	0.79	7.72	6.92	6.16	5.96
65	0.00	0.12	0.49	0.19	0.00	0.82	7.52	6.70	5.92	5.87
66	0.00	0.10	0.44	0.15	0.00	0.71	7.87	7.15	6.42	6.03
67	0.00	0.22	0.47	0.09	0.00	0.79	7.76	6.96	6.20	5.98
68	0.00	0.18	0.61	0.04	0.00	0.84	7.71	6.86	6.07	5.96
69	0.00	0.10	0.50	0.15	0.00	0.77	7.82	7.05	6.29	6.01
70	0.00	0.13	0.49	0.13	0.00	0.76	8.00	7.24	6.48	6.10
71	0.00	0.30	0.47	0.03	0.00	0.81	7.96	7.14	6.37	6.06
72	0.00	0.27	0.50	0.02	0.00	0.87	7.94	7.06	6.27	6.07

TABLE 4

DISSOLVED OXYGEN CALCULATED
NO PROJECT - 1995 - DRY SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)			
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
73	0.00	0.12	0.51	0.09	0.00	0.74	7.83	7.09	6.34	6.02
74	0.00	0.25	0.45	0.05	0.00	0.77	7.93	7.16	6.40	6.06
75	0.00	0.37	0.44	0.01	0.00	0.84	7.94	7.10	6.32	6.07
76	0.00	0.35	0.45	0.03	0.00	0.84	7.91	7.06	6.28	6.05
77	0.00	0.44	0.41	0.02	0.00	0.87	7.92	7.04	6.25	6.06
78	0.00	0.50	0.34	0.01	0.00	0.86	7.94	7.08	6.29	6.07
79	0.00	0.21	0.40	0.00	0.00	0.62	7.94	7.32	6.61	6.07
80	0.00	0.44	0.44	0.02	0.00	0.91	7.92	7.01	6.21	6.06
81	0.00	0.51	0.34	0.01	0.00	0.87	7.94	7.06	6.27	6.07
82	0.00	0.54	0.25	0.01	0.00	0.81	7.95	7.14	6.37	6.07
83	0.00	0.52	0.24	0.01	0.00	0.78	7.95	7.17	6.41	6.07
84	0.00	0.52	0.20	0.00	0.00	0.73	7.96	7.23	6.40	6.08
85	0.00	0.50	0.16	0.00	0.00	0.68	7.96	7.28	6.55	6.08
86	0.00	0.48	0.16	0.00	0.00	0.65	7.96	7.31	6.50	6.08
87	0.00	0.24	0.02	0.00	0.00	0.26	8.09	7.82	7.23	6.14
88	0.00	0.48	0.12	0.00	0.00	0.61	8.12	7.51	6.80	6.16
89	0.00	0.36	0.10	0.00	0.00	0.46	8.12	7.65	6.99	6.16
90	0.00	0.21	0.02	0.00	0.00	0.23	8.13	7.89	7.30	6.16
91	0.00	0.28	0.06	0.00	0.00	0.35	8.14	7.79	7.16	6.17
92	0.00	0.22	0.05	0.00	0.00	0.28	8.13	7.85	7.24	6.16
93	0.00	0.12	0.02	0.00	0.00	0.14	8.10	7.95	7.39	6.14
94	0.00	0.04	0.00	0.00	0.00	0.05	8.22	8.16	7.64	6.20
95	0.00	0.14	0.02	0.00	0.00	0.17	8.20	8.03	7.47	6.19
96	0.00	0.08	0.01	0.00	0.00	0.10	8.20	8.10	7.56	6.19
97	0.00	0.08	0.01	0.00	0.00	0.09	8.10	8.00	7.46	6.14
98	0.43	0.00	0.20	1.94	0.00	2.58	8.71	6.13	4.79	6.44
99	0.75	0.00	0.09	3.08	0.00	3.94	8.71	4.77	3.80	6.44
100	1.20	0.00	0.24	4.28	0.00	5.72	8.71	2.99	0.64	6.44
101	1.55	0.00	0.29	4.55	0.00	6.40	8.71	2.31	0.00	6.44
102	2.00	0.00	0.38	3.36	0.00	5.76	8.71	2.95	0.59	6.44
103	4.33	0.00	0.00	0.00	0.00	4.33	8.25	3.91	2.01	6.22
104	4.33	0.00	0.02	0.00	0.00	4.35	8.25	3.90	1.99	6.22
105	4.32	0.00	0.03	0.00	0.00	4.35	8.40	4.04	2.13	6.29
106	4.22	0.00	0.10	0.02	0.00	4.34	8.40	4.35	2.15	6.29
107	3.98	0.00	0.21	0.05	0.00	4.25	8.40	4.14	2.27	6.29
108	3.83	0.00	0.24	0.07	0.00	4.16	8.55	4.39	2.55	6.36

TABLE 4

DISSOLVED OXYGEN CALCULATED
NO PROJECT - 1995 - DRY SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)		90TH PERCENTILE	
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	DO	DO STANDARD
109	3.74	0.00	0.28	0.10	0.00	4.13	8.55	4.41	2.58	6.36
110	3.66	0.00	0.30	0.15	0.00	4.12	8.55	4.42	2.59	6.36
111	3.46	0.00	0.33	0.31	0.00	4.11	8.68	4.57	2.74	6.42
112	3.04	0.00	0.34	0.60	0.00	3.98	8.62	4.63	2.84	6.39
113	0.62	0.00	0.83	1.48	0.00	2.95	8.33	5.38	3.92	6.26
114	0.69	0.00	0.64	1.18	0.00	2.53	8.33	5.80	4.48	6.26
115	0.77	0.00	0.48	1.02	0.00	2.28	8.33	6.05	4.81	6.26
116	0.85	0.00	0.43	0.98	0.00	2.28	8.33	6.04	4.80	6.26
117	0.96	0.00	0.40	0.94	0.00	2.30	8.33	6.03	4.78	6.26
118	0.06	0.00	0.05	7.88	0.00	8.00	7.93	-0.06	0.00	6.06
119	0.12	0.00	0.24	4.99	0.00	5.37	7.93	2.55	0.32	6.06
120	0.25	0.00	0.38	1.94	0.00	2.59	7.93	5.34	4.00	6.06
121	0.76	0.00	0.96	0.64	0.00	2.37	8.73	6.36	5.09	6.45
122	2.13	0.00	1.40	0.66	0.00	4.19	8.73	4.53	2.68	6.45
123	1.30	0.00	0.97	0.50	0.00	2.79	8.51	5.72	4.31	6.34
124	0.79	0.00	0.56	0.43	0.00	1.79	8.19	6.40	5.31	6.19
125	0.37	0.00	0.44	0.40	0.00	1.23	7.95	6.72	5.01	6.07
126	0.00	0.00	0.02	5.28	0.00	5.32	7.65	2.33	0.12	5.93
127	0.02	0.00	0.26	1.63	0.00	1.92	7.65	5.73	4.60	5.93
128	0.05	0.02	0.41	1.57	0.00	2.06	7.65	5.59	4.42	5.93
129	0.00	0.00	0.00	6.59	0.00	6.60	7.65	1.04	0.00	5.93
130	0.00	0.00	0.01	6.64	0.00	6.66	7.65	0.98	0.00	5.93
131	0.01	0.00	0.05	6.08	0.00	6.15	7.65	1.49	0.00	5.93
132	0.02	0.01	0.32	4.84	0.00	5.21	7.65	2.44	0.26	5.93
133	0.06	0.03	0.59	2.20	0.00	2.90	7.65	4.74	3.30	5.93
134	0.09	0.05	0.50	1.29	0.00	1.96	7.65	5.68	4.54	5.93
135	1.50	0.04	0.32	0.59	0.00	2.46	7.87	5.41	4.11	6.04
136	1.18	0.05	0.36	0.61	0.00	2.21	7.80	5.58	4.36	6.00
137	0.83	0.07	0.37	0.60	0.00	1.89	7.73	5.84	4.72	5.97
138	0.55	0.09	0.37	0.60	0.00	1.63	7.69	6.06	5.02	5.95
139	0.34	0.10	0.37	0.58	0.00	1.41	7.66	6.25	5.20	5.94
140	0.07	0.02	0.40	0.72	0.00	1.22	7.67	6.44	5.54	5.94
141	0.09	0.03	0.37	0.53	0.00	1.03	7.67	6.63	5.78	5.94

TABLE 5

DISSOLVED OXYGEN CALCULATED
NO PROJECT - 1995 - CANNING SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
1	2.64	0.00	0.33	0.90	0.00	3.89	8.71	4.82	3.67	6.44
2	2.13	0.00	0.33	0.93	0.00	3.39	8.53	5.13	3.53	6.35
3	1.39	0.00	0.33	0.82	0.00	2.55	8.33	5.78	4.45	6.26
4	1.01	0.00	0.32	0.73	0.00	2.07	8.20	6.12	4.94	6.19
5	0.71	0.00	0.32	0.70	0.00	1.74	8.05	6.30	5.23	6.12
6	0.47	0.00	0.33	0.68	0.00	1.49	7.93	6.45	5.44	6.06
7	0.32	0.01	0.32	0.55	0.00	1.22	7.84	6.61	5.71	6.02
8	0.27	0.01	0.33	0.52	0.00	1.15	7.80	6.65	5.77	6.00
9	0.19	0.03	0.32	0.50	0.00	1.06	7.86	6.79	5.94	6.03
10	0.20	0.03	0.32	0.49	0.00	1.06	7.87	6.81	5.95	6.03
11	0.17	0.04	0.32	0.50	0.00	1.05	7.83	6.78	5.93	6.02
12	0.16	0.04	0.32	0.50	0.00	1.04	7.83	6.79	5.94	6.02
13	0.12	0.06	0.33	0.51	0.00	1.03	7.79	6.75	5.91	6.00
14	0.14	0.05	0.33	0.50	0.00	1.03	7.79	6.76	5.92	6.00
15	0.13	0.05	0.32	0.46	0.00	0.98	7.80	6.82	5.99	6.00
16	0.13	0.06	0.33	0.54	0.00	1.08	7.78	6.70	5.84	5.99
17	0.14	0.07	0.33	0.52	0.00	1.06	7.79	6.72	5.87	6.00
18	0.13	0.06	0.31	0.47	0.00	0.99	7.79	6.80	5.97	6.00
19	0.14	0.07	0.33	0.56	0.00	1.12	7.78	6.66	5.79	5.99
20	0.14	0.09	0.33	0.54	0.00	1.10	7.78	6.67	5.81	5.99
21	0.13	0.06	0.31	0.47	0.00	0.99	7.79	6.79	5.96	6.00
22	0.14	0.08	0.34	0.60	0.00	1.17	7.78	6.60	5.71	5.99
23	0.16	0.11	0.35	0.57	0.00	1.20	7.77	6.56	5.66	5.99
24	0.15	0.08	0.32	0.51	0.00	1.08	7.78	6.69	5.83	5.99
25	0.17	0.13	0.37	0.61	0.00	1.29	7.76	6.46	5.54	5.98
26	0.17	0.14	0.38	0.60	0.00	1.30	7.76	6.45	5.52	5.98
27	0.22	0.12	0.36	0.57	0.00	1.29	7.77	6.48	5.56	5.99
28	0.16	0.17	0.39	0.61	0.00	1.34	7.75	6.40	5.45	5.98
29	0.14	0.20	0.42	0.60	0.00	1.37	7.86	6.49	5.53	6.03
30	0.10	0.25	0.46	0.53	0.00	1.36	7.83	5.47	5.52	6.02
31	0.11	0.25	0.45	0.54	0.00	1.36	7.84	6.47	5.52	6.02
32	0.06	0.22	0.45	0.56	0.00	1.31	7.82	6.50	5.57	6.01
33	0.06	0.27	0.49	0.44	0.00	1.28	7.81	6.53	5.60	6.01
34	0.07	0.30	0.48	0.46	0.00	1.32	7.81	6.48	5.54	6.01
35	0.06	0.31	0.48	0.44	0.00	1.31	7.80	6.49	5.56	6.00
36	0.04	0.26	0.49	0.64	0.00	1.45	7.80	5.35	5.57	6.00

TABLE 5

DISSOLVED OXYGEN CALCULATED
NO PROJECT - 1995 - CANNING SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)			
	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
37	0.05	0.24	0.50	0.41	0.00	1.23	7.81	6.57	5.67	6.01
38	0.06	0.30	0.50	0.44	0.00	1.32	7.81	6.49	5.55	6.01
39	0.02	0.34	0.50	0.32	0.00	1.20	7.78	6.58	5.68	5.99
40	0.03	0.28	0.50	0.67	0.00	1.50	7.79	6.29	5.30	6.00
41	0.05	0.22	0.51	0.45	0.00	1.24	7.80	6.56	5.65	6.00
42	0.05	0.31	0.52	0.43	0.00	1.32	7.80	6.48	5.55	6.00
43	0.01	0.34	0.50	0.25	0.00	1.12	7.78	6.65	5.78	5.99
44	0.01	0.26	0.49	0.56	0.00	1.34	7.78	6.44	5.50	5.99
45	0.03	0.24	0.51	0.37	0.00	1.17	7.80	6.63	5.74	6.00
46	0.03	0.31	0.52	0.32	0.00	1.20	7.79	6.58	5.68	6.00
47	0.01	0.32	0.50	0.19	0.00	1.03	7.77	6.74	5.90	5.99
48	0.01	0.24	0.48	0.35	0.00	1.09	7.78	6.68	5.82	5.99
49	0.03	0.21	0.50	0.36	0.00	1.12	7.79	6.67	5.80	6.00
50	0.03	0.30	0.55	0.30	0.00	1.17	7.78	6.61	5.72	5.99
51	0.00	0.28	0.50	0.16	0.00	0.96	7.77	6.81	5.98	5.99
52	0.00	0.23	0.49	0.22	0.00	0.96	7.77	6.81	5.98	5.99
53	0.02	0.19	0.50	0.36	0.00	1.08	7.78	6.69	5.83	5.99
54	0.02	0.25	0.53	0.32	0.00	1.14	7.75	6.61	5.73	5.98
55	0.00	0.26	0.49	0.14	0.00	0.91	7.77	6.86	6.06	5.99
56	0.00	0.22	0.51	0.15	0.00	0.89	7.77	6.87	6.07	5.99
57	0.02	0.20	0.56	0.31	0.00	1.10	7.48	6.38	5.51	5.95
58	0.02	0.29	0.66	0.39	0.00	1.38	7.38	5.99	5.04	5.90
59	0.00	0.20	0.48	0.11	0.00	0.82	7.78	6.96	6.18	5.99
60	0.00	0.17	0.51	0.09	0.00	0.78	7.75	6.97	6.20	5.98
61	0.01	0.14	0.50	0.24	0.00	0.91	7.49	6.58	5.75	5.96
62	0.00	0.10	0.33	0.15	0.00	0.59	8.18	7.59	6.89	6.15
63	0.00	0.19	0.48	0.11	0.00	0.79	7.78	6.98	6.22	5.97
64	0.00	0.15	0.57	0.05	0.00	0.79	7.72	6.92	6.16	5.96
65	0.01	0.12	0.49	0.19	0.00	0.82	7.52	6.69	5.92	5.97
66	0.00	0.10	0.44	0.15	0.00	0.71	7.87	7.15	6.41	6.03
67	0.00	0.22	0.47	0.09	0.00	0.79	7.76	6.96	6.20	5.95
68	0.00	0.15	0.61	0.04	0.00	0.84	7.71	6.86	6.07	5.96
69	0.00	0.10	0.50	0.15	0.00	0.77	7.82	7.05	6.29	6.01
70	0.00	0.13	0.49	0.13	0.00	0.76	8.00	7.24	6.48	6.10
71	0.00	0.30	0.47	0.03	0.00	0.81	7.96	7.14	6.37	6.08
72	0.00	0.27	0.58	0.02	0.00	0.87	7.94	7.06	6.27	6.07

TABLE 5

DISSOLVED OXYGEN CALCULATED
NO PROJECT - 1995 - CANNING SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)			
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
73	0.00	0.12	0.51	0.09	0.00	0.74	7.83	7.09	6.34	6.02
74	0.00	0.25	0.45	0.05	0.00	0.77	7.93	7.16	6.40	6.06
75	0.00	0.37	0.44	0.01	0.00	0.84	7.94	7.10	6.32	6.07
76	0.00	0.35	0.45	0.03	0.00	0.84	7.91	7.06	6.28	6.05
77	0.00	0.44	0.41	0.02	0.00	0.88	7.92	7.04	6.25	6.06
78	0.00	0.50	0.34	0.01	0.00	0.86	7.94	7.08	6.29	6.07
79	0.00	0.21	0.40	0.00	0.00	0.62	7.94	7.32	6.61	6.07
80	0.00	0.44	0.44	0.02	0.00	0.91	7.92	7.01	6.21	6.06
81	0.00	0.51	0.34	0.01	0.00	0.87	7.94	7.06	6.27	6.07
82	0.00	0.54	0.25	0.01	0.00	0.81	7.95	7.14	6.37	6.07
83	0.00	0.52	0.24	0.01	0.00	0.78	7.95	7.17	6.40	6.07
84	0.00	0.52	0.20	0.00	0.00	0.73	7.96	7.23	6.48	6.08
85	0.00	0.50	0.16	0.00	0.00	0.68	7.96	7.28	6.55	6.08
86	0.00	0.48	0.16	0.00	0.00	0.65	7.96	7.31	6.58	6.08
87	0.00	0.24	0.02	0.00	0.00	0.26	8.09	7.82	7.23	6.14
88	0.00	0.48	0.12	0.00	0.00	0.61	8.12	7.51	6.80	6.16
89	0.00	0.36	0.10	0.00	0.00	0.46	8.12	7.65	6.99	6.16
90	0.00	0.21	0.02	0.00	0.00	0.23	8.13	7.89	7.30	6.16
91	0.00	0.29	0.06	0.00	0.00	0.35	8.14	7.79	7.16	6.17
92	0.00	0.22	0.05	0.00	0.00	0.28	8.13	7.85	7.24	6.16
93	0.00	0.12	0.02	0.00	0.00	0.14	8.10	7.95	7.39	6.14
94	0.00	0.04	0.00	0.00	0.00	0.05	8.22	8.16	7.64	6.20
95	0.00	0.14	0.02	0.00	0.00	0.17	8.20	8.03	7.47	6.19
96	0.00	0.08	0.01	0.00	0.00	0.10	8.20	8.10	7.56	6.19
97	0.00	0.09	0.01	0.00	0.00	0.09	8.10	8.00	7.46	6.14
98	0.47	0.00	0.20	1.94	0.00	2.62	8.71	6.09	4.73	6.44
99	0.85	0.00	0.09	3.08	0.00	4.01	8.71	4.70	2.90	6.44
100	1.32	0.00	0.24	4.28	0.00	5.85	8.71	2.86	0.47	6.44
101	1.71	0.00	0.29	4.55	0.00	6.56	8.71	2.15	0.00	6.44
102	2.21	0.00	0.38	3.36	0.00	5.96	8.71	2.75	0.33	6.44
103	4.00	0.00	0.00	0.00	0.00	4.01	8.25	4.24	2.44	6.22
104	4.00	0.00	0.02	0.00	0.00	4.02	8.25	4.22	2.42	6.22
105	3.99	0.00	0.03	0.00	0.00	4.03	8.40	4.36	2.56	6.29
106	3.91	0.00	0.10	0.02	0.00	4.04	8.40	4.35	2.55	6.29
107	3.76	0.00	0.21	0.05	0.00	4.02	8.40	4.37	2.57	6.29
108	3.64	0.00	0.24	0.07	0.00	3.95	8.55	4.60	2.82	6.36

TABLE 5

DISSOLVED OXYGEN CALCULATED
NO PROJECT - 1995 - CAWNING SEASON

SEGMENT	DD DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
109	3.56	0.00	0.28	0.10	0.00	3.95	8.55	4.60	2.82	6.36
110	3.50	0.00	0.30	0.15	0.00	3.96	8.55	4.58	2.80	6.36
111	3.44	0.00	0.33	0.31	0.00	4.09	8.68	4.59	2.76	6.42
112	3.19	0.00	0.34	0.60	0.00	4.13	8.62	4.49	2.65	6.39
113	0.78	0.00	0.83	1.48	0.00	3.10	8.33	5.23	3.72	6.26
114	0.86	0.00	0.64	1.18	0.00	2.70	8.33	5.63	4.26	6.26
115	0.95	0.00	0.48	1.02	0.00	2.47	8.33	5.86	4.56	6.26
116	1.06	0.00	0.43	0.98	0.00	2.49	8.33	5.84	4.52	6.26
117	1.19	0.00	0.40	0.94	0.00	2.53	8.33	5.79	4.47	6.26
118	0.08	0.00	0.05	7.88	0.00	8.02	7.93	-0.09	0.00	6.06
119	0.16	0.00	0.24	4.99	0.00	5.41	7.93	2.51	0.26	6.06
120	0.34	0.00	0.38	1.94	0.00	2.68	7.93	5.25	3.89	6.06
121	0.91	0.00	0.96	0.64	0.00	2.52	8.73	6.21	4.99	6.45
122	2.55	0.00	1.40	0.66	0.00	4.61	8.73	4.12	2.13	6.45
123	1.67	0.00	0.97	0.50	0.00	3.15	8.51	5.35	3.83	6.34
124	1.08	0.00	0.56	0.43	0.00	2.08	8.19	6.11	4.93	6.19
125	0.52	0.00	0.44	0.40	0.00	1.38	7.95	6.57	5.62	6.07
126	0.00	0.00	0.02	5.28	0.00	5.32	7.65	2.33	0.12	5.93
127	0.02	0.00	0.26	1.65	0.00	1.93	7.65	5.72	4.59	5.93
128	0.06	0.02	0.41	1.57	0.00	2.07	7.65	5.58	4.40	5.93
129	0.00	0.00	0.00	6.59	0.00	6.60	7.65	1.04	0.00	5.93
130	0.00	0.00	0.01	6.64	0.00	6.66	7.65	0.98	0.00	5.93
131	0.01	0.00	0.05	6.08	0.00	6.15	7.65	1.49	0.00	5.93
132	0.03	0.01	0.32	4.84	0.00	5.21	7.65	2.43	0.25	5.93
133	0.07	0.03	0.59	2.20	0.00	2.91	7.65	4.73	3.29	5.93
134	0.10	0.05	0.50	1.29	0.00	1.97	7.65	5.67	4.53	5.93
135	1.50	0.04	0.32	0.59	0.00	2.46	7.87	5.40	4.10	6.04
136	1.19	0.05	0.36	0.61	0.00	2.22	7.80	5.57	4.34	6.00
137	0.84	0.07	0.37	0.60	0.00	1.90	7.73	5.83	4.70	5.97
138	0.57	0.09	0.37	0.60	0.00	1.64	7.69	6.04	5.00	5.95
139	0.35	0.10	0.37	0.58	0.00	1.42	7.66	6.23	5.26	5.94
140	0.08	0.02	0.40	0.72	0.00	1.23	7.67	6.43	5.52	5.94
141	0.11	0.03	0.37	0.53	0.00	1.05	7.67	6.61	5.76	5.94

TABLE 6

DISSOLVED OXYGEN CALCULATED
NO PROJECT - 1995 - WET SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
1	2.36	0.00	0.39	0.58	0.15	3.50	10.24	6.73	5.10	7.16
2	1.86	0.00	0.39	0.60	0.13	2.99	10.09	7.09	5.62	7.09
3	1.22	0.00	0.39	0.53	0.10	2.27	9.91	7.64	6.40	7.01
4	0.90	0.00	0.39	0.49	0.09	1.87	9.78	7.90	6.79	6.94
5	0.65	0.00	0.38	0.47	0.06	1.59	9.62	8.03	7.01	6.87
6	0.45	0.01	0.39	0.46	0.05	1.37	9.49	8.11	7.16	6.80
7	0.32	0.02	0.39	0.38	0.04	1.17	9.38	8.20	7.32	6.75
8	0.28	0.02	0.39	0.36	0.04	1.11	9.33	8.21	7.35	6.73
9	0.21	0.04	0.39	0.35	0.03	1.04	9.44	8.39	7.55	6.78
10	0.21	0.04	0.39	0.34	0.03	1.04	9.45	8.41	7.56	6.78
11	0.19	0.05	0.39	0.35	0.03	1.03	9.40	8.36	7.52	6.76
12	0.18	0.05	0.39	0.34	0.03	1.02	9.39	8.37	7.53	6.76
13	0.15	0.07	0.39	0.34	0.03	1.01	9.34	8.32	7.49	6.73
14	0.16	0.07	0.39	0.34	0.03	1.01	9.35	8.33	7.49	6.74
15	0.15	0.06	0.38	0.32	0.03	0.97	9.36	8.39	7.55	6.74
16	0.15	0.08	0.40	0.36	0.04	1.05	9.33	8.28	7.43	6.73
17	0.16	0.09	0.39	0.35	0.04	1.04	9.34	8.29	7.44	6.73
18	0.15	0.08	0.38	0.32	0.03	0.99	9.34	8.35	7.52	6.73
19	0.16	0.09	0.40	0.38	0.04	1.08	9.33	8.24	7.39	6.73
20	0.16	0.09	0.40	0.36	0.04	1.08	9.33	8.25	7.39	6.73
21	0.16	0.09	0.38	0.32	0.03	0.99	9.34	8.35	7.52	6.73
22	0.16	0.10	0.40	0.40	0.04	1.12	9.32	8.20	7.33	6.73
23	0.18	0.13	0.42	0.38	0.04	1.17	9.31	8.14	7.25	6.72
24	0.17	0.10	0.39	0.35	0.04	1.07	9.32	8.25	7.40	6.73
25	0.19	0.15	0.43	0.40	0.05	1.24	9.29	8.04	7.13	6.71
26	0.19	0.16	0.44	0.40	0.05	1.26	9.29	8.02	7.11	6.71
27	0.24	0.13	0.43	0.38	0.05	1.25	9.31	8.06	7.14	6.72
28	0.18	0.19	0.46	0.40	0.05	1.30	9.27	7.97	7.04	6.70
29	0.16	0.22	0.49	0.39	0.05	1.33	9.46	8.13	7.19	6.79
30	0.12	0.27	0.54	0.34	0.05	1.34	9.41	8.07	7.13	6.77
31	0.12	0.27	0.52	0.35	0.05	1.33	9.42	8.08	7.14	6.77
32	0.07	0.25	0.53	0.35	0.04	1.26	9.38	8.11	7.20	6.75
33	0.08	0.29	0.57	0.29	0.04	1.28	9.38	8.10	7.17	6.75
34	0.08	0.31	0.56	0.30	0.04	1.31	9.38	8.06	7.13	6.75
35	0.07	0.33	0.56	0.29	0.04	1.29	9.37	8.07	7.14	6.75
36	0.05	0.29	0.57	0.35	0.05	1.36	9.36	8.00	7.05	6.74

TABLE 6

DISSOLVED OXYGEN CALCULATED
NO PROJECT - 1995 - WET SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
37	0.07	0.26	0.58	0.27	0.04	1.24	9.38	8.13	7.22	6.75
38	0.07	0.32	0.57	0.29	0.04	1.31	9.37	8.06	7.13	6.75
39	0.03	0.36	0.57	0.21	0.03	1.21	9.33	8.11	7.21	6.73
40	0.04	0.31	0.58	0.40	0.05	1.39	9.34	7.95	6.99	6.74
41	0.06	0.24	0.59	0.28	0.04	1.23	9.37	8.14	7.23	6.75
42	0.06	0.32	0.59	0.27	0.04	1.31	9.36	8.05	7.11	6.74
43	0.02	0.36	0.58	0.16	0.03	1.16	9.32	8.16	7.27	6.72
44	0.02	0.28	0.57	0.33	0.04	1.27	9.33	8.06	7.14	6.73
45	0.04	0.26	0.59	0.24	0.03	1.18	9.36	8.17	7.28	6.74
46	0.04	0.33	0.60	0.21	0.03	1.23	9.34	8.11	7.20	6.73
47	0.01	0.34	0.57	0.12	0.02	1.09	9.31	8.22	7.36	6.72
48	0.01	0.26	0.57	0.21	0.03	1.10	9.32	8.21	7.34	6.72
49	0.04	0.24	0.58	0.23	0.03	1.13	9.36	8.22	7.34	6.74
50	0.03	0.32	0.61	0.19	0.03	1.20	9.34	8.13	7.23	6.73
51	0.01	0.31	0.57	0.11	0.02	1.04	9.31	8.27	7.42	6.72
52	0.01	0.26	0.58	0.14	0.03	1.04	9.31	8.27	7.43	6.72
53	0.03	0.22	0.58	0.22	0.03	1.10	9.35	8.24	7.38	6.74
54	0.03	0.28	0.61	0.20	0.03	1.17	9.31	8.14	7.25	6.72
55	0.01	0.29	0.57	0.10	0.02	0.99	9.31	8.31	7.48	6.72
56	0.00	0.25	0.59	0.10	0.03	1.00	9.30	8.30	7.47	6.72
57	0.03	0.24	0.66	0.20	0.03	1.18	9.03	7.85	6.76	6.49
58	0.04	0.33	0.77	0.25	0.03	1.43	8.91	7.49	6.50	6.53
59	0.00	0.24	0.55	0.09	0.01	0.92	9.31	8.39	7.59	6.72
60	0.00	0.20	0.59	0.06	0.02	0.90	9.28	8.37	7.57	6.71
61	0.02	0.18	0.60	0.16	0.02	1.00	9.04	8.03	7.20	6.59
62	0.01	0.12	0.38	0.10	0.01	0.64	9.80	9.15	8.44	6.95
63	0.00	0.23	0.55	0.09	0.01	0.89	9.32	8.42	7.62	6.72
64	0.00	0.19	0.66	0.04	0.01	0.92	9.23	8.30	7.50	6.68
65	0.01	0.15	0.59	0.14	0.02	0.93	9.08	8.14	7.33	6.51
66	0.01	0.13	0.51	0.11	0.01	0.79	9.46	8.66	7.89	6.79
67	0.00	0.26	0.55	0.06	0.01	0.89	9.27	8.38	7.59	6.70
68	0.00	0.22	0.69	0.03	0.01	0.97	9.21	8.23	7.40	6.67
69	0.01	0.14	0.58	0.11	0.02	0.88	9.11	8.23	7.43	6.63
70	0.01	0.17	0.55	0.10	0.01	0.86	9.28	8.42	7.63	6.71
71	0.00	0.33	0.53	0.05	0.00	0.91	9.15	8.24	7.43	6.59
72	0.00	0.31	0.64	0.01	0.00	0.98	9.13	8.15	7.32	6.54

TABLE 6

DISSOLVED OXYGEN CALCULATED
NO PROJECT - 1995 - WET SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
73	0.00	0.15	0.58	0.05	0.01	0.84	9.12	8.27	7.49	6.63
74	0.00	0.29	0.51	0.05	0.01	0.87	9.13	8.26	7.46	6.63
75	0.00	0.40	0.49	0.01	0.00	0.92	9.11	8.18	7.37	6.62
76	0.00	0.36	0.50	0.03	0.01	0.91	9.09	8.17	7.36	6.61
77	0.00	0.45	0.45	0.02	0.00	0.94	9.08	8.13	7.32	6.61
78	0.00	0.51	0.37	0.01	0.00	0.91	9.06	8.15	7.35	6.60
79	0.00	0.23	0.45	0.00	0.00	0.69	9.06	8.36	7.63	6.60
80	0.00	0.44	0.48	0.02	0.00	0.97	9.08	8.10	7.28	6.61
81	0.00	0.50	0.39	0.01	0.00	0.91	9.07	8.15	7.35	6.60
82	0.00	0.53	0.28	0.01	0.00	0.83	9.06	8.22	7.44	6.60
83	0.00	0.51	0.27	0.01	0.00	0.80	9.06	8.25	7.48	6.60
84	0.00	0.50	0.22	0.00	0.00	0.74	9.05	8.31	7.56	6.50
85	0.00	0.49	0.19	0.00	0.00	0.69	9.06	8.36	7.63	6.60
86	0.00	0.45	0.18	0.00	0.00	0.66	9.05	8.39	7.66	6.60
87	0.00	0.25	0.02	0.00	0.00	0.29	9.27	8.99	8.39	6.70
88	0.00	0.45	0.13	0.00	0.00	0.61	9.27	8.66	7.95	6.70
89	0.00	0.35	0.11	0.00	0.00	0.47	9.25	8.77	8.11	6.69
90	0.00	0.22	0.02	0.00	0.00	0.25	9.28	9.02	8.43	6.70
91	0.00	0.27	0.07	0.00	0.00	0.34	9.27	8.92	8.30	6.70
92	0.00	0.21	0.05	0.00	0.00	0.28	9.24	8.96	8.35	6.69
93	0.00	0.12	0.02	0.00	0.00	0.15	9.17	9.01	8.45	6.68
94	0.00	0.04	0.01	0.00	0.00	0.05	9.07	9.02	8.49	6.61
95	0.00	0.12	0.02	0.00	0.00	0.15	9.35	9.20	8.64	6.74
96	0.00	0.09	0.01	0.00	0.00	0.09	9.34	9.24	8.69	6.73
97	0.00	0.09	0.01	0.00	0.00	0.11	9.17	9.06	8.51	6.68
98	0.00	0.30	0.06	0.00	0.50	0.57	10.36	9.79	9.09	7.22
99	0.06	0.00	0.06	0.14	0.91	1.18	10.36	9.17	8.28	7.22
100	0.41	0.00	0.21	1.08	1.03	2.86	10.32	7.46	6.03	7.20
101	1.11	0.00	0.31	1.92	0.77	4.12	10.29	6.16	4.35	7.19
102	1.80	0.00	0.44	1.79	0.42	4.46	10.26	5.80	3.85	7.17
103	4.14	0.00	0.00	0.00	0.00	4.14	9.08	4.93	3.09	6.61
104	4.13	0.00	0.02	0.00	0.00	4.16	9.27	5.10	3.26	6.70
105	4.12	0.00	0.03	0.00	0.00	4.16	9.47	5.30	3.45	6.79
106	4.04	0.00	0.12	0.01	0.01	4.18	9.68	5.49	3.64	6.89
107	3.81	0.00	0.28	0.03	0.03	4.13	9.90	5.76	3.93	7.00
108	3.68	0.00	0.29	0.04	0.04	4.04	9.99	5.95	4.04	7.00

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TABLE 6

DISSOLVED OXYGEN CALCULATED
NO PROJECT - 1995 - WET SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
109	3.58	0.00	0.33	0.07	0.06	4.04	10.12	6.08	4.27	7.11
110	3.48	0.00	0.36	0.11	0.09	4.04	10.12	6.08	4.27	7.10
111	3.29	0.00	0.39	0.22	0.10	4.02	10.10	6.07	4.27	7.10
112	2.93	0.00	0.40	0.41	0.13	3.87	10.06	6.19	4.94	7.08
113	0.49	0.03	0.75	0.59	0.39	2.24	10.08	7.84	6.61	7.09
114	0.71	0.00	0.70	0.63	0.30	2.34	9.99	7.65	6.36	7.04
115	0.88	0.00	0.56	0.61	0.21	2.26	9.95	7.69	6.46	7.02
116	0.98	0.00	0.51	0.61	0.17	2.27	9.93	7.66	6.42	7.01
117	1.07	0.00	0.47	0.59	0.14	2.28	9.92	7.64	6.39	7.01
118	0.87	0.00	0.09	6.05	0.75	7.76	9.86	2.10	0.00	6.98
119	0.17	0.00	0.29	2.85	0.27	3.59	9.63	6.04	4.30	6.97
120	0.34	0.00	0.46	1.19	0.11	2.10	9.53	7.43	6.24	6.92
121	0.40	0.00	1.02	0.26	0.81	2.49	10.34	7.84	6.53	7.21
122	2.08	0.00	1.64	0.39	0.30	4.41	10.30	5.89	3.96	7.19
123	1.46	0.00	1.17	0.35	0.22	3.20	10.14	6.94	5.40	7.11
124	1.01	0.00	0.60	0.32	0.19	2.10	9.83	7.66	6.43	6.96
125	0.42	0.01	0.59	0.30	0.07	1.39	9.94	8.55	7.12	6.93
126	0.02	0.00	0.02	2.46	0.67	3.17	9.80	6.63	5.11	6.95
127	0.05	0.01	0.30	1.08	0.16	1.60	9.27	7.67	6.64	6.70
128	0.08	0.09	0.44	0.97	0.05	1.62	9.16	7.53	6.50	6.65
129	0.00	0.03	0.00	1.23	0.84	2.08	10.28	8.20	7.02	7.19
130	0.00	0.00	0.00	4.39	0.70	5.09	9.90	4.81	2.67	7.00
131	0.01	0.00	0.06	5.84	0.39	6.28	9.56	3.28	0.76	6.94
132	0.00	0.01	0.37	2.76	0.17	3.31	9.27	5.96	4.30	6.70
133	0.07	0.05	0.67	1.24	0.09	2.12	9.16	7.04	5.85	6.68
134	0.12	0.07	0.58	0.79	0.04	1.59	9.13	7.54	6.52	6.64
135	1.44	0.04	0.37	0.35	0.10	2.30	9.39	7.09	5.84	6.76
136	1.15	0.06	0.42	0.37	0.09	2.09	9.30	7.21	6.02	6.72
137	0.81	0.09	0.44	0.39	0.08	1.81	9.22	7.41	6.31	6.68
138	0.46	0.10	0.44	0.51	0.06	1.57	9.17	7.59	6.57	6.65
139	0.26	0.12	0.45	0.49	0.05	1.37	9.13	7.76	6.86	6.57
140	0.06	0.08	0.45	0.41	0.12	1.12	9.23	8.10	7.23	6.68
141	0.14	0.04	0.45	0.34	0.06	1.03	9.17	8.14	7.30	6.59

TABLE 7

DISSOLVED OXYGEN CALCULATED
UPGRADE SAN JOSE - 1995 - DRY SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO (MG/L) DO	90TH PERCENTILE DO	DO STANDARD
1	1.30	0.00	0.33	0.90	0.00	2.54	8.71	6.17	4.84	6.49
2	0.88	0.00	0.33	0.95	0.00	2.16	8.53	6.37	5.16	6.35
3	0.52	0.00	0.33	0.82	0.00	1.68	8.33	6.65	5.60	6.26
4	0.35	0.00	0.32	0.75	0.00	1.42	8.20	6.77	5.90	6.19
5	0.25	0.00	0.32	0.70	0.00	1.27	8.05	6.77	5.95	6.12
6	0.18	0.00	0.33	0.68	0.00	1.19	7.93	6.74	5.85	6.06
7	0.11	0.01	0.32	0.55	0.00	1.01	7.84	6.82	5.98	6.02
8	0.12	0.01	0.33	0.52	0.00	0.98	7.80	6.82	6.00	6.00
9	0.08	0.05	0.32	0.50	0.00	0.95	7.86	6.90	6.08	6.03
10	0.08	0.05	0.32	0.49	0.00	0.94	7.87	6.92	6.10	6.03
11	0.08	0.04	0.32	0.50	0.00	0.96	7.83	6.86	6.04	6.02
12	0.08	0.04	0.32	0.50	0.00	0.96	7.83	6.87	6.05	6.02
13	0.08	0.06	0.33	0.51	0.00	0.98	7.79	6.80	5.97	6.00
14	0.08	0.06	0.33	0.50	0.00	0.97	7.79	6.82	5.99	6.00
15	0.08	0.06	0.32	0.46	0.00	0.92	7.80	6.87	6.07	6.00
16	0.09	0.06	0.33	0.54	0.00	1.04	7.78	6.74	5.90	5.99
17	0.09	0.07	0.33	0.52	0.00	1.01	7.79	6.77	5.93	6.00
18	0.08	0.04	0.31	0.47	0.00	0.94	7.79	6.84	6.03	6.00
19	0.09	0.07	0.33	0.56	0.00	1.07	7.78	6.71	5.85	5.99
20	0.10	0.08	0.33	0.54	0.00	1.05	7.78	6.72	5.87	5.99
21	0.08	0.06	0.31	0.47	0.00	0.95	7.79	6.84	6.02	6.00
22	0.10	0.09	0.34	0.60	0.00	1.13	7.78	6.65	5.77	5.99
23	0.11	0.11	0.35	0.57	0.00	1.16	7.77	6.61	5.72	5.99
24	0.11	0.09	0.32	0.51	0.00	1.04	7.78	6.74	5.89	5.99
25	0.12	0.13	0.37	0.61	0.00	1.25	7.76	6.51	[illegible]	5.98
26	0.13	0.14	0.39	0.60	0.00	1.26	7.76	6.49	5.57	5.98
27	0.18	0.12	0.36	0.57	0.00	1.24	7.77	6.52	5.61	5.99
28	0.12	0.17	0.39	0.61	0.00	1.30	7.75	6.44	5.51	5.98
29	0.11	0.21	0.42	0.60	0.00	1.34	7.86	6.52	5.58	6.05
30	0.07	0.28	0.44	0.55	0.00	1.34	7.83	6.49	5.55	6.02
31	0.08	0.25	0.45	0.54	0.00	1.33	7.83	6.50	5.56	6.02
32	0.06	0.22	0.45	0.56	0.00	1.29	7.82	6.53	5.59	6.01
33	0.08	0.27	0.47	0.44	0.00	1.26	7.81	6.54	5.65	6.01
34	0.06	0.30	0.49	0.46	0.00	1.31	7.81	6.50	5.57	6.01
35	0.06	0.31	0.48	0.44	0.00	1.29	7.80	6.51	5.58	6.00
36	[illegible]	[illegible]	[illegible]	0.44	0.00	1.43	7.80	6.36	5.39	6.00

TABLE 7

DISSOLVED OXYGEN CALCULATED
UPGRADE SAN JOSE - 1985 - DRY SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO (MG/L) DO	90TH PERCENTILE DO	DO STANDARD
37	0.04	0.24	0.50	0.41	0.00	1.21	7.81	6.59	5.69	6.01
38	0.04	0.30	0.50	0.44	0.00	1.30	7.81	6.50	5.57	6.01
39	0.01	0.34	0.50	0.32	0.00	1.19	7.78	6.58	5.69	5.99
40	0.02	0.29	0.50	0.67	0.00	1.49	7.79	6.30	5.31	6.00
41	0.03	0.22	0.51	0.45	0.00	1.23	7.80	6.57	5.67	6.00
42	0.04	0.31	0.52	0.43	0.00	1.30	7.80	6.49	5.57	6.00
43	0.01	0.34	0.50	0.25	0.00	1.12	7.78	6.65	5.78	5.99
44	0.01	0.26	0.49	0.56	0.00	1.33	7.78	6.45	5.51	5.99
45	0.02	0.24	0.51	0.37	0.00	1.16	7.80	6.64	5.75	6.00
46	0.02	0.31	0.52	0.32	0.00	1.19	7.79	6.59	5.69	6.00
47	0.00	0.32	0.50	0.19	0.00	1.03	7.77	6.74	5.90	5.99
48	0.00	0.24	0.48	0.35	0.00	1.09	7.78	6.69	5.82	5.99
49	0.02	0.21	0.50	0.36	0.00	1.11	7.79	6.68	5.81	6.00
50	0.02	0.30	0.53	0.30	0.00	1.16	7.78	6.61	5.73	5.99
51	0.00	0.28	0.50	0.16	0.00	0.95	7.77	6.81	5.99	5.99
52	0.00	0.23	0.49	0.22	0.00	0.96	7.77	6.81	5.99	5.99
53	0.02	0.19	0.50	0.36	0.00	1.09	7.78	6.70	5.84	5.99
54	0.01	0.25	0.53	0.32	0.00	1.13	7.75	6.62	5.74	5.98
55	0.00	0.24	0.49	0.14	0.00	0.91	7.77	6.86	6.06	5.99
56	0.00	0.22	0.51	0.15	0.00	0.89	7.77	6.87	6.07	5.99
57	0.01	0.20	0.56	0.31	0.00	1.09	7.40	6.30	5.52	5.95
58	0.02	0.29	0.66	0.39	0.00	1.37	7.38	6.00	5.05	5.90
59	0.00	0.20	0.45	0.11	0.00	0.81	7.78	6.96	6.15	5.99
60	0.00	0.17	0.51	0.09	0.00	0.78	7.75	6.97	6.21	5.98
61	0.01	0.14	0.50	0.24	0.00	0.90	7.49	6.58	5.78	5.96
62	0.00	0.10	0.33	0.15	0.00	0.59	8.18	7.59	6.89	6.18
63	0.00	0.19	0.48	0.11	0.00	0.79	7.79	6.99	6.22	5.99
64	0.00	0.15	0.57	0.05	0.00	0.79	7.72	6.93	6.16	5.96
65	0.00	0.12	0.49	0.19	0.00	0.82	7.52	6.70	5.92	5.97
66	0.00	0.13	0.44	0.15	0.00	0.71	7.87	7.15	6.41	6.03
67	0.00	0.22	0.47	0.09	0.00	0.79	7.76	6.96	6.20	5.98
68	0.00	0.14	0.61	0.04	0.00	0.84	7.71	6.86	6.07	5.96
69	0.00	0.13	0.50	0.15	0.00	0.77	7.82	7.05	6.29	6.01
70	0.00	0.13	0.49	0.13	0.00	0.76	8.00	7.24	6.48	6.10
71	0.00	0.30	0.47	0.03	0.00	0.81	7.96	7.14	6.37	6.35
72	0.00	0.27	0.54	0.02	0.00	0.87	7.94	7.06	6.27	6.37

TABLE 7

DISSOLVED OXYGEN CALCULATED
UPGRADE SAN JOSE - 1995 - DRY SEASON

	DO DEFICIT COMPONENTS (MG/L)							DO (MG/L)		
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
73	0.00	0.12	0.51	0.09	0.00	0.74	7.83	7.09	6.35	6.02
74	0.00	0.25	0.45	0.05	0.00	0.77	7.93	7.16	6.40	6.06
75	0.00	0.37	0.44	0.01	0.00	0.84	7.94	7.10	6.32	6.07
76	0.00	0.35	0.45	0.03	0.00	0.84	7.91	7.06	6.28	6.05
77	0.00	0.44	0.41	0.02	0.00	0.87	7.92	7.04	6.25	6.06
78	0.00	0.50	0.34	0.01	0.00	0.86	7.94	7.08	6.29	6.07
79	0.00	0.21	0.40	0.00	0.00	0.62	7.94	7.32	6.61	6.07
80	0.00	0.44	0.44	0.02	0.00	0.91	7.92	7.01	6.21	6.06
81	0.00	0.51	0.34	0.01	0.00	0.87	7.94	7.06	6.27	6.07
82	0.00	0.54	0.25	0.01	0.00	0.81	7.95	7.14	6.37	6.07
83	0.00	0.53	0.24	0.01	0.00	0.78	7.95	7.17	6.41	6.07
84	0.00	0.52	0.20	0.00	0.00	0.73	7.96	7.23	6.48	6.08
85	0.00	0.50	0.18	0.00	0.00	0.68	7.96	7.28	6.55	6.08
86	0.00	0.49	0.16	0.00	0.00	0.65	7.96	7.31	6.59	6.08
87	0.00	0.24	0.02	0.00	0.00	0.26	8.09	7.82	7.23	6.14
88	0.00	0.49	0.12	0.00	0.00	0.61	8.12	7.51	6.88	6.16
89	0.00	0.36	0.10	0.00	0.00	0.46	8.12	7.65	6.99	6.16
90	0.00	0.21	0.02	0.00	0.00	0.23	8.13	7.90	7.30	6.16
91	0.00	0.29	0.06	0.00	0.00	0.35	8.14	7.79	7.16	6.17
92	0.00	0.22	0.05	0.00	0.00	0.28	8.13	7.85	7.24	6.16
93	0.00	0.12	0.02	0.00	0.00	0.14	8.10	7.95	7.39	6.18
94	0.00	0.04	0.00	0.00	0.00	0.05	8.22	8.16	7.64	6.20
95	0.00	0.14	0.02	0.00	0.00	0.17	8.20	8.03	7.47	6.19
96	0.00	0.09	0.01	0.00	0.00	0.10	8.20	8.10	7.56	6.19
97	0.00	0.08	0.01	0.00	0.00	0.09	8.10	8.00	7.45	6.18
98	0.20	0.00	0.20	1.94	0.00	2.35	8.71	6.36	5.10	6.44
99	0.45	0.00	0.09	3.00	0.00	3.54	8.71	5.17	3.53	6.44
100	0.57	0.00	0.24	4.28	0.00	5.10	8.71	3.61	1.96	6.44
101	0.76	0.00	0.29	4.55	0.00	5.60	8.71	3.11	0.80	6.44
102	1.05	0.00	0.35	3.36	0.00	4.76	8.71	3.95	1.92	6.44
103	4.14	0.00	0.00	0.00	0.00	4.17	8.25	4.08	2.23	6.22
104	4.14	0.00	0.02	0.00	0.00	4.17	8.25	4.08	2.24	6.22
105	4.11	0.00	0.05	0.00	0.00	4.15	8.40	4.24	2.40	6.29
106	3.89	0.00	0.10	0.02	0.00	4.01	8.40	4.39	2.59	6.29
107	3.51	0.00	0.21	0.05	0.00	3.79	8.40	4.62	2.89	6.29
108	4.14	[illegible]	0.24	0.17	0.00	4.43	8.55	[illegible]	2.43	6.35

TABLE 7

DISSOLVED OXYGEN CALCULATED
UPGRADE SAN JOSE - 1985 - DRY SEASON
DO DEFICIT COMPONENTS (MG/L)

SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO (MG/L) DO	90TH PERCENTILE DO	DO STANDARD
109	2.91	0.00	0.20	0.10	0.00	3.30	8.55	5.25	3.60	6.56
110	2.66	0.00	0.30	0.15	0.00	3.13	8.55	5.41	3.90	6.56
111	2.52	0.00	0.33	0.31	0.00	2.97	8.68	5.71	4.25	6.42
112	1.05	0.03	0.34	0.60	0.00	2.78	8.62	5.84	4.44	6.39
113	0.28	0.03	0.83	1.48	0.00	2.60	8.33	5.73	4.38	6.26
114	0.41	0.00	0.64	1.10	0.00	2.14	8.33	6.19	4.99	6.26
115	0.44	0.03	0.48	1.02	0.00	1.86	8.33	6.47	5.37	6.26
116	0.99	0.00	0.43	0.98	0.00	1.92	8.33	6.51	5.42	6.26
117	0.44	0.03	0.40	0.94	0.00	1.78	8.33	6.55	5.46	6.26
118	0.02	0.00	0.05	7.98	0.00	7.96	7.93	-0.03	0.00	6.36
119	0.09	0.03	0.24	4.99	0.00	5.30	7.93	2.62	0.41	6.35
120	0.11	0.03	0.30	1.94	0.00	2.44	7.93	5.48	4.19	6.34
121	0.59	0.00	0.96	0.64	0.00	2.20	8.73	6.53	5.31	6.49
122	1.67	0.03	1.40	0.66	0.00	3.73	8.73	4.99	3.29	6.49
123	0.44	0.00	0.97	0.58	0.00	2.37	8.51	6.13	4.86	6.54
124	0.47	0.00	0.56	0.43	0.00	1.47	8.19	6.71	5.73	6.19
125	0.20	0.03	0.48	0.40	0.00	1.06	7.95	6.89	6.04	6.07
126	0.00	0.00	0.02	4.20	0.00	5.31	7.65	2.34	0.12	5.93
127	0.01	0.09	0.26	1.63	0.00	1.92	7.65	5.73	4.61	5.93
128	0.04	0.02	0.41	1.97	0.00	2.05	7.65	5.60	4.43	5.93
129	0.00	0.03	0.00	6.59	0.00	6.60	7.65	1.04	0.00	5.93
130	0.00	0.00	0.01	4.44	0.00	6.66	7.65	0.98	0.00	5.93
131	0.00	0.03	0.05	6.09	0.00	6.15	7.65	1.49	0.00	5.93
132	0.02	0.01	0.32	4.04	0.00	5.20	7.65	2.44	0.27	5.93
133	0.04	0.05	0.59	2.20	0.00	2.89	7.65	4.76	3.32	5.93
134	0.07	0.04	0.50	1.29	0.00	1.94	7.65	5.70	4.57	5.93
135	1.04	0.04	0.32	0.59	0.00	2.42	7.87	5.44	4.16	6.20
136	1.14	0.04	0.36	0.61	0.00	2.18	7.80	5.62	4.40	6.20
137	0.00	0.07	0.37	0.60	0.00	1.96	7.73	5.37	4.76	5.97
138	0.58	0.04	0.37	0.60	0.00	1.63	7.69	6.39	5.06	5.95
139	0.41	0.10	0.37	0.98	0.00	1.38	7.66	6.27	5.32	5.90
140	0.04	0.02	0.40	0.72	0.00	1.27	7.67	.46	5.56	5.90
141	0.06	0.03	0.37	0.53	0.00	1.01	7.67	.56	5.82	5.90

TABLE [illegible]

DISSOLVED OXYGEN CALCULATION
UPGRADE SAN JOSE - 1989 - CANNING SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)			
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
1	1.96	0.00	0.33	0.90	0.00	2.60	8.71	6.11	5.77	6.44
2	0.94	0.00	0.33	0.93	0.00	2.21	8.53	6.31	6.09	5.99
3	0.46	0.00	0.33	0.82	0.00	1.72	8.33	6.61	6.54	6.26
4	0.38	0.00	0.32	0.75	0.00	1.45	8.20	6.74	6.76	6.19
5	0.27	0.00	0.32	0.70	0.00	1.30	8.05	6.74	6.02	6.17
6	0.18	0.00	0.33	0.64	0.00	1.20	7.93	6.72	5.82	6.06
7	0.17	0.01	0.32	0.55	0.00	1.03	7.88	6.90	5.95	6.22
8	0.12	0.01	0.33	0.52	0.00	1.00	7.80	6.80	5.97	6.30
9	0.10	0.03	0.32	0.50	0.00	0.97	7.86	6.89	6.07	6.39
10	0.10	0.03	0.32	0.49	0.00	0.96	7.87	6.90	6.09	6.39
11	0.09	0.04	0.32	0.50	0.00	0.97	7.85	6.89	6.02	6.32
12	0.08	0.04	0.32	0.50	0.00	0.96	7.83	6.86	6.03	6.32
13	0.08	0.06	0.33	0.51	0.00	0.99	7.79	6.79	5.96	6.30
14	0.09	0.05	0.33	0.50	0.00	0.98	7.79	6.81	5.99	6.30
15	0.08	0.08	0.32	0.46	0.00	0.95	7.80	6.87	6.26	6.30
16	0.09	0.06	0.33	0.50	0.00	1.04	7.78	6.74	5.89	5.99
17	0.09	0.07	0.33	0.52	0.00	1.02	7.79	6.76	5.92	6.30
18	0.09	0.06	0.31	0.47	0.00	0.99	7.79	6.90	6.02	6.30
19	0.10	0.07	0.33	0.46	0.00	1.08	7.78	6.70	5.94	5.99
20	0.10	0.09	0.33	0.54	0.00	1.06	7.78	6.72	5.96	5.99
21	0.09	0.06	0.31	0.47	0.00	0.95	7.79	6.83	6.01	6.00
22	0.10	0.08	0.34	0.60	0.00	1.13	7.79	6.66	5.77	5.99
23	0.12	0.11	0.35	0.57	0.00	1.16	7.77	6.60	5.72	5.99
24	0.11	0.09	0.32	0.51	0.00	1.04	7.78	6.73	5.69	5.99
25	0.13	0.13	0.37	0.61	0.00	1.25	7.76	6.50	5.59	5.98
26	0.13	0.14	0.36	0.60	0.00	1.27	7.76	6.49	5.57	5.99
27	0.14	0.17	0.36	0.57	0.00	1.29	7.77	6.52	5.61	5.99
28	0.12	0.17	0.39	0.61	0.00	1.31	7.75	6.43	5.50	5.99
29	0.11	0.20	0.42	0.60	0.00	1.34	7.86	6.52	5.59	6.13
30	0.08	0.28	0.46	0.53	0.00	1.34	7.83	6.49	5.54	6.22
31	0.08	0.25	0.48	0.54	0.00	1.34	7.84	6.50	5.55	6.22
32	0.08	0.22	0.45	0.46	0.00	1.29	7.82	6.52	5.59	6.21
33	0.08	0.27	0.49	0.44	0.00	1.26	7.81	6.54	5.62	6.21
34	0.08	0.33	0.44	0.46	0.00	1.31	7.81	6.50	5.56	6.21
35	0.08	0.31	0.49	0.44	0.00	1.29	7.80	6.51	5.49	6.20
36	[illegible]	0.26	[illegible]	[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

TABLE 8

DISSOLVED OXYGEN CALCULATED
UPGRADE SAN JOSE - 1985 - CANNING SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)		90TH PERCENTILE	
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	DO	DO STANDARD
37	0.04	0.24	0.50	0.41	0.00	1.22	7.81	6.59	5.68	6.01
38	0.05	0.30	0.50	0.44	0.00	1.30	7.81	6.50	5.57	6.01
39	0.02	0.34	0.50	0.32	0.00	1.19	7.78	6.58	5.69	5.99
40	0.02	0.28	0.50	0.57	0.00	1.49	7.79	6.30	5.30	6.00
41	0.04	0.22	0.51	0.45	0.00	1.23	7.80	6.57	5.66	6.00
42	0.04	0.31	0.52	0.43	0.00	1.30	7.80	6.49	5.56	6.00
43	0.01	0.34	0.50	0.25	0.00	1.12	7.78	6.65	5.79	5.99
44	0.01	0.26	0.49	0.56	0.00	1.33	7.78	6.45	5.51	5.99
45	0.02	0.24	0.51	0.37	0.00	1.16	7.80	6.64	5.75	6.00
46	0.02	0.31	0.52	0.32	0.00	1.19	7.79	6.59	5.69	6.00
47	0.00	0.32	0.50	0.19	0.00	1.03	7.77	6.74	5.90	5.99
48	0.00	0.24	0.48	0.35	0.00	1.09	7.78	6.69	5.82	5.99
49	0.02	0.21	0.50	0.36	0.00	1.11	7.79	6.68	5.81	6.00
50	0.02	0.30	0.53	0.30	0.00	1.16	7.78	6.61	5.73	5.99
51	0.00	0.29	0.50	0.16	0.00	0.96	7.77	6.81	5.99	5.99
52	0.00	0.23	0.49	0.22	0.00	0.96	7.77	6.81	5.99	5.99
53	0.02	0.19	0.50	0.36	0.00	1.08	7.78	6.70	5.84	5.99
54	0.02	0.25	0.53	0.32	0.00	1.13	7.75	6.62	5.74	5.98
55	0.00	0.26	0.49	0.14	0.00	0.91	7.77	6.86	6.06	5.99
56	0.00	0.22	0.51	0.15	0.00	0.89	7.77	6.87	6.07	5.99
57	0.01	0.20	0.56	0.31	0.00	1.10	7.48	6.38	5.52	5.85
58	0.02	0.29	0.66	0.39	0.00	1.37	7.38	6.00	5.04	5.80
59	0.00	0.20	0.48	0.11	0.00	0.81	7.78	6.96	6.15	5.99
60	0.00	0.17	0.51	0.09	0.00	0.78	7.75	6.97	6.21	5.98
61	0.01	0.14	0.50	0.24	0.00	0.90	7.49	6.59	5.78	5.86
62	0.00	0.10	0.33	0.15	0.00	0.59	8.18	7.59	6.89	6.19
63	0.00	0.19	0.48	0.11	0.00	0.79	7.78	6.99	6.22	5.99
64	0.00	0.15	0.57	0.05	0.00	0.79	7.72	6.92	6.15	5.96
65	0.00	0.12	0.49	0.19	0.00	0.82	7.52	6.70	5.92	5.87
66	0.00	0.10	0.44	0.15	0.00	0.71	7.87	7.15	6.41	6.03
67	0.00	0.22	0.47	0.09	0.00	0.79	7.76	6.96	6.20	5.98
68	0.00	0.19	0.61	0.04	0.00	0.84	7.71	6.86	6.07	5.96
69	0.00	0.10	0.50	0.15	0.00	0.77	7.82	7.05	6.29	6.01
70	0.00	0.13	0.49	0.13	0.00	0.76	8.00	7.24	6.48	6.10
71	0.00	0.30	0.47	0.03	0.00	0.81	7.96	7.14	6.37	6.09
72	[illegible]	0.27	0.58	0.02	0.00	0.87	7.94	7.06	6.27	6.07

TABLE E

DISSOLVED OXYGEN CALCULATED
UPGRADE SAN JOSE - 1984 - CANNING SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)		90TH PERCENTILE	
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	DO	DO STANDARD
73	0.00	0.12	0.51	0.09	0.00	0.74	7.83	7.09	6.35	6.02
74	0.00	0.25	0.45	0.05	0.00	0.77	7.93	7.16	6.40	6.06
75	0.00	0.37	0.44	0.01	0.00	0.84	7.94	7.10	6.32	6.07
76	0.00	0.35	0.45	0.03	0.00	0.84	7.91	7.06	6.28	6.05
77	0.00	0.44	0.41	0.02	0.00	0.87	7.92	7.04	6.25	6.06
78	0.00	0.50	0.34	0.01	0.00	0.86	7.94	7.08	6.29	6.07
79	0.00	0.21	0.40	0.00	0.00	0.62	7.94	7.32	6.61	6.07
80	0.00	0.44	0.44	0.02	0.00	0.91	7.92	7.01	6.21	6.06
81	0.00	0.51	0.34	0.01	0.00	0.87	7.94	7.06	6.27	6.07
82	0.00	0.54	0.25	0.01	0.00	0.81	7.95	7.14	6.37	6.07
83	0.00	0.52	0.24	0.01	0.00	0.78	7.95	7.17	6.41	6.07
84	0.00	0.52	0.20	0.00	0.00	0.73	7.96	7.23	6.49	6.09
85	0.00	0.50	0.16	0.00	0.00	0.68	7.96	7.28	6.55	6.09
86	0.00	0.44	0.16	0.00	0.00	0.65	7.96	7.31	6.58	6.10
87	0.00	0.24	0.02	0.00	0.00	0.26	8.09	7.82	7.23	6.14
88	0.00	0.48	0.12	0.00	0.00	0.61	8.12	7.51	6.80	6.16
89	0.00	0.36	0.10	0.00	0.00	0.46	8.12	7.65	6.99	6.16
90	0.00	0.21	0.02	0.00	0.00	0.23	8.13	7.89	7.30	6.16
91	0.00	0.29	0.06	0.00	0.00	0.35	8.14	7.79	7.16	6.17
92	0.00	0.22	0.05	0.00	0.00	0.28	8.13	7.85	7.29	6.16
93	0.00	0.12	0.02	0.00	0.00	0.14	8.10	7.95	7.39	6.19
94	0.00	0.04	0.00	0.00	0.00	0.05	8.22	8.16	7.64	6.20
95	0.00	0.14	0.02	0.00	0.00	0.17	8.20	8.03	7.47	6.19
96	0.00	0.09	0.01	0.00	0.00	0.10	8.20	8.10	7.56	6.19
97	0.00	0.08	0.01	0.00	0.00	0.09	8.10	8.00	7.46	6.19
98	0.18	0.00	0.20	1.94	0.00	2.33	8.71	6.38	5.12	6.44
99	0.34	0.00	0.09	3.08	0.00	3.51	8.71	5.20	3.56	6.44
100	0.54	0.00	0.24	4.29	0.00	5.07	8.71	3.64	1.51	6.44
101	0.72	0.00	0.29	4.55	0.00	5.57	8.71	3.14	0.85	6.44
102	0.98	0.00	0.38	3.36	0.00	4.74	8.71	3.97	1.94	6.44
103	3.99	0.00	0.00	0.00	0.00	4.00	8.25	4.25	2.46	6.22
104	3.97	0.00	0.02	0.00	0.00	3.99	8.25	4.25	2.46	6.22
105	3.96	0.00	0.03	0.00	0.00	3.99	8.40	4.41	2.62	6.29
106	3.74	0.00	0.10	0.02	0.00	3.89	8.40	4.50	2.75	6.29
107	3.40	0.00	0.21	0.05	0.00	3.67	8.40	4.73	3.04	6.29
108	3.12	0.00	0.24	0.07	0.00	3.45	8.55	5.10	3.49	6.36

MICROFILMED FROM
BEST AVAIL

TABLE 8

DISSOLVED OXYGEN CALCULATED
UPGRADE SAN JOSE - 1985 - CANNING SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)		90TH PERCENTILE	
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	DO	DO STANDARD
109	2.94	0.00	0.28	0.10	0.00	3.32	8.55	5.23	3.66	6.36
110	2.71	0.00	0.30	0.15	0.00	3.17	8.55	5.37	3.94	6.36
111	2.41	0.00	0.33	0.31	0.00	3.06	8.68	5.62	4.15	6.42
112	1.94	0.00	0.34	0.60	0.00	2.88	8.62	5.73	4.30	6.39
113	0.29	0.00	0.83	1.49	0.00	2.61	8.33	5.72	4.37	6.26
114	0.34	0.00	0.64	1.18	0.00	2.16	8.33	6.17	4.97	6.26
115	0.36	0.00	0.48	1.02	0.00	1.87	8.33	6.46	5.34	6.26
116	0.41	0.00	0.43	0.98	0.00	1.84	8.33	6.49	5.39	6.26
117	0.46	0.00	0.40	0.94	0.00	1.81	8.33	6.52	5.45	6.26
118	0.04	0.00	0.05	7.88	0.00	7.97	7.93	-0.03	0.00	6.06
119	0.06	0.03	0.24	4.99	0.00	5.31	7.93	2.61	0.40	6.06
120	0.13	0.00	0.38	1.94	0.00	2.46	7.93	5.46	4.16	6.06
121	0.87	0.00	0.96	0.64	0.00	2.48	8.73	6.25	4.94	6.45
122	2.46	0.00	1.40	0.66	0.00	4.52	8.73	4.21	2.25	6.45
123	1.49	0.00	0.97	0.50	0.00	2.98	8.51	5.53	4.06	6.34
124	0.88	0.00	0.56	0.43	0.00	1.87	8.19	6.31	5.20	6.19
125	0.36	0.00	0.44	0.40	0.00	1.22	7.95	6.73	5.83	6.07
126	0.00	0.00	0.02	5.29	0.00	5.31	7.65	2.34	0.12	5.93
127	0.01	0.00	0.26	1.65	0.00	1.92	7.65	5.73	4.60	5.93
128	0.04	0.02	0.41	1.57	0.00	2.05	7.65	5.60	4.43	5.93
129	0.00	0.00	0.00	6.59	0.00	6.60	7.65	1.04	0.00	5.93
130	0.00	0.00	0.01	6.64	0.00	6.66	7.65	0.98	0.00	5.93
131	0.00	0.03	0.05	6.08	0.00	6.15	7.65	1.49	0.00	5.93
132	0.02	0.01	0.32	4.84	0.00	5.20	7.65	2.44	0.26	5.93
133	0.07	0.03	0.59	2.20	0.00	2.89	7.65	4.76	3.32	5.93
134	0.07	0.08	0.50	1.29	0.00	1.94	7.65	5.70	4.57	5.93
135	1.46	0.04	0.32	0.59	0.00	2.42	7.87	5.45	4.16	6.04
136	1.16	0.05	0.36	0.61	0.00	2.18	7.80	5.61	4.40	6.00
137	0.80	0.07	0.37	0.60	0.00	1.86	7.73	5.87	4.76	5.97
138	0.54	0.09	0.37	0.60	0.00	1.60	7.69	6.09	5.06	5.95
139	0.31	0.10	0.37	0.58	0.00	1.38	7.66	6.27	5.31	5.94
140	0.05	0.02	0.40	0.72	0.00	1.20	7.67	6.46	5.56	5.94
141	0.07	0.03	0.37	0.53	0.00	1.01	7.67	6.65	5.81	5.94

TABLE 9

PAGE 1

DISSOLVED OXYGEN CALCULATED
UPGRADE SAN JOSE - 1985 - WET SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
1	1.35	0.00	0.39	0.58	0.15	2.48	10.24	7.76	6.45	7.16
2	0.96	0.00	0.39	0.60	0.13	2.09	10.08	7.99	6.01	7.09
3	0.62	0.00	0.39	0.53	0.10	1.64	9.91	8.27	7.23	7.01
4	0.42	0.00	0.39	0.49	0.08	1.39	9.78	8.38	7.42	6.94
5	0.30	0.00	0.38	0.47	0.06	1.24	9.62	8.38	7.47	6.97
6	0.21	0.01	0.39	0.46	0.05	1.13	9.49	8.35	7.47	6.90
7	0.16	0.02	0.39	0.38	0.04	1.00	9.38	8.37	7.53	6.75
8	0.15	0.02	0.39	0.36	0.04	0.97	9.33	8.35	7.53	6.73
9	0.12	0.04	0.39	0.35	0.03	0.95	9.44	8.49	7.67	6.78
10	0.12	0.04	0.39	0.34	0.03	0.94	9.45	8.50	7.68	6.78
11	0.12	0.05	0.39	0.35	0.03	0.96	9.40	8.44	7.62	6.76
12	0.11	0.05	0.39	0.34	0.03	0.95	9.39	8.44	7.62	6.76
13	0.10	0.07	0.39	0.34	0.03	0.97	9.34	8.37	7.54	6.75
14	0.11	0.07	0.39	0.34	0.03	0.96	9.35	8.38	7.56	6.74
15	0.11	0.06	0.38	0.32	0.03	0.92	9.36	8.43	7.62	6.74
16	0.11	0.08	0.40	0.36	0.04	1.01	9.33	8.32	7.49	6.73
17	0.11	0.09	0.39	0.35	0.04	1.00	9.34	8.34	7.51	6.73
18	0.11	0.09	0.38	0.32	0.03	0.94	9.34	8.39	7.58	6.73
19	0.12	0.09	0.40	0.38	0.04	1.04	9.33	8.29	7.44	6.73
20	0.12	0.09	0.40	0.36	0.04	1.03	9.33	8.29	7.45	6.73
21	0.11	0.09	0.39	0.32	0.03	0.95	9.34	8.39	7.57	6.73
22	0.12	0.10	0.40	0.40	0.04	1.08	9.32	8.24	7.38	6.73
23	0.14	0.13	0.42	0.39	0.04	1.12	9.31	8.18	7.31	6.72
24	0.14	0.10	0.39	0.35	0.04	1.02	9.32	8.29	7.45	6.73
25	0.16	0.15	0.43	0.40	0.05	1.20	9.29	8.08	7.19	6.71
26	0.18	0.16	0.44	0.40	0.05	1.22	9.29	8.06	7.16	6.71
27	0.20	0.15	0.43	0.38	0.05	1.21	9.31	8.10	7.20	6.72
28	0.14	0.19	0.46	0.40	0.05	1.26	9.27	8.01	7.09	6.70
29	0.13	0.22	0.49	0.39	0.05	1.29	9.46	8.16	7.23	6.79
30	0.09	0.27	0.54	0.34	0.05	1.31	9.41	8.09	7.16	6.77
31	0.09	0.27	0.52	0.35	0.05	1.30	9.42	8.11	7.19	6.77
32	0.08	0.25	0.53	0.35	0.04	1.25	9.38	8.13	7.22	6.75
33	0.06	0.29	0.57	0.29	0.04	1.26	9.38	8.11	7.20	6.75
34	0.06	0.31	0.56	0.30	0.04	1.29	9.38	8.08	7.15	6.75
35	0.05	0.33	0.56	0.29	0.04	1.28	9.37	8.08	7.16	6.75
36	0.04	0.29	0.57	0.39	0.05	1.35	9.36	8.01	7.05	6.74

TABLE 9

DISSOLVED OXYGEN CALCULATED
UPGRADE SAN JOSE - 1985 - WET SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)			
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
37	0.08	0.26	0.58	0.27	0.04	1.23	9.38	8.14	7.24	6.75
38	0.06	0.32	0.57	0.29	0.04	1.29	9.37	8.07	7.15	6.75
39	0.02	0.36	0.57	0.21	0.03	1.21	9.33	8.12	7.22	6.73
40	0.03	0.31	0.58	0.40	0.05	1.38	9.34	7.96	7.00	6.74
41	0.05	0.24	0.59	0.28	0.04	1.22	9.37	8.15	7.25	6.75
42	0.08	0.32	0.59	0.27	0.04	1.30	9.36	8.06	7.15	6.74
43	0.01	0.35	0.58	0.16	0.03	1.15	9.32	8.16	7.28	6.72
44	0.02	0.29	0.57	0.33	0.04	1.26	9.33	8.06	7.15	6.73
45	0.03	0.26	0.59	0.24	0.03	1.17	9.36	8.18	7.29	6.74
46	0.03	0.33	0.60	0.21	0.03	1.22	9.34	8.12	7.22	6.73
47	0.01	0.34	0.57	0.12	0.02	1.09	9.31	8.22	7.36	6.72
48	0.01	0.26	0.57	0.21	0.03	1.10	9.32	8.21	7.35	6.72
49	0.03	0.24	0.58	0.23	0.03	1.12	9.36	8.23	7.35	6.74
50	0.04	0.32	0.61	0.19	0.03	1.20	9.34	8.14	7.24	6.73
51	0.01	0.31	0.57	0.11	0.02	1.04	9.31	8.27	7.43	6.72
52	0.00	0.26	0.58	0.14	0.03	1.03	9.31	8.27	7.43	6.72
53	0.02	0.22	0.58	0.22	0.03	1.09	9.35	8.25	7.39	6.74
54	0.02	0.28	0.61	0.20	0.03	1.16	9.31	8.14	7.26	6.72
55	0.00	0.29	0.57	0.10	0.02	0.99	9.31	8.31	7.48	6.72
56	0.00	0.25	0.59	0.10	0.03	1.00	9.30	8.30	7.47	6.72
57	0.02	0.24	0.66	0.20	0.03	1.17	9.03	7.85	6.96	6.59
58	0.03	0.33	0.77	0.25	0.03	1.42	8.91	7.48	6.52	6.53
59	0.00	0.24	0.55	0.08	0.01	0.91	9.31	8.39	7.59	6.72
60	0.00	0.20	0.59	0.06	0.02	0.90	9.28	8.37	7.57	6.71
61	0.01	0.19	0.60	0.16	0.02	1.00	9.04	8.04	7.21	6.59
62	0.01	0.12	0.38	0.10	0.01	0.63	9.80	9.16	8.44	6.95
63	0.00	0.23	0.55	0.09	0.01	0.99	9.32	8.42	7.62	6.72
64	0.00	0.19	0.66	0.04	0.01	0.92	9.23	8.31	7.50	6.68
65	0.01	0.15	0.58	0.14	0.02	0.93	9.08	8.14	7.33	6.61
66	0.01	0.13	0.51	0.11	0.01	0.79	9.46	8.66	7.90	6.79
67	0.00	0.26	0.53	0.06	0.01	0.89	9.27	8.38	7.58	6.70
68	0.00	0.22	0.69	0.03	0.01	0.97	9.21	8.23	7.41	6.57
69	0.01	0.14	0.58	0.11	0.02	0.88	9.11	8.23	7.44	6.63
70	0.00	0.17	0.55	0.10	0.01	0.86	9.28	8.42	7.63	6.71
71	0.00	0.33	0.53	0.03	0.00	0.91	9.16	8.24	7.43	6.65
72	0.00	0.31	0.64	0.01	0.00	0.98	9.13	8.15	7.32	6.64

TABLE 9

DISSOLVED OXYGEN CALCULATED
UPGRADE SAN JOSE - 1985 - WET SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
73	0.00	0.15	0.59	0.08	0.01	0.84	9.12	8.27	7.49	6.63
74	0.00	0.29	0.51	0.05	0.01	0.87	9.13	8.26	7.47	6.63
75	0.00	0.40	0.49	0.01	0.00	0.92	9.11	8.18	7.37	6.62
76	0.00	0.36	0.50	0.03	0.01	0.91	9.09	8.17	7.37	6.61
77	0.00	0.45	0.45	0.02	0.00	0.94	9.08	8.14	7.32	6.61
78	0.00	0.51	0.37	0.01	0.00	0.91	9.06	8.15	7.35	6.50
79	0.00	0.25	0.45	0.00	0.00	0.69	9.06	8.36	7.63	6.60
80	0.00	0.44	0.48	0.02	0.00	0.97	9.09	8.11	7.28	6.61
81	0.00	0.50	0.39	0.01	0.00	0.91	9.07	8.15	7.35	6.60
82	0.00	0.53	0.28	0.01	0.00	0.83	9.06	8.22	7.44	6.50
83	0.00	0.51	0.27	0.01	0.00	0.80	9.06	8.25	7.48	6.60
84	0.00	0.50	0.22	0.00	0.00	0.74	9.05	8.31	7.56	6.60
85	0.00	0.49	0.19	0.00	0.00	0.69	9.06	8.36	7.63	6.60
86	0.00	0.46	0.18	0.00	0.00	0.66	9.05	8.39	7.66	6.60
87	0.00	0.26	0.02	0.00	0.00	0.28	9.27	8.99	8.39	6.70
88	0.00	0.45	0.15	0.00	0.00	0.61	9.27	8.66	7.95	6.70
89	0.00	0.35	0.11	0.00	0.00	0.47	9.25	8.77	8.11	6.69
90	0.00	0.23	0.02	0.00	0.00	0.25	9.28	9.02	8.43	6.70
91	0.00	0.27	0.07	0.00	0.00	0.34	9.27	8.92	8.50	6.70
92	0.00	0.21	0.05	0.00	0.00	0.28	9.24	8.96	8.35	6.59
93	0.00	0.12	0.02	0.00	0.00	0.15	9.17	9.01	8.45	6.59
94	0.00	0.04	0.01	0.00	0.00	0.05	9.07	9.02	8.49	6.51
95	0.00	0.12	0.02	0.00	0.00	0.15	9.35	9.20	8.64	6.79
96	0.00	0.08	0.01	0.00	0.00	0.09	9.34	9.24	8.69	6.73
97	0.00	0.09	0.01	0.00	0.00	0.11	9.17	9.06	8.51	6.55
98	0.00	0.00	0.06	0.00	0.50	0.57	10.36	9.79	9.09	7.22
99	0.02	0.00	0.06	0.14	0.91	1.15	10.36	9.20	8.32	7.22
100	0.28	0.00	0.21	1.08	1.03	2.59	10.32	7.72	6.38	7.29
101	0.56	0.00	0.31	1.92	0.77	3.57	10.29	6.72	5.06	7.15
102	0.93	0.00	0.44	1.79	0.42	3.59	10.26	6.67	5.00	7.17
103	3.79	0.00	0.01	0.00	0.00	3.80	9.08	5.27	3.54	6.51
104	3.77	0.00	0.02	0.00	0.00	3.80	9.27	5.46	3.73	6.70
105	3.78	0.00	0.03	0.00	0.00	3.80	9.47	5.67	3.94	6.79
106	3.60	0.00	0.12	0.01	0.01	3.74	9.68	5.94	4.23	6.89
107	3.26	0.00	0.25	0.03	0.03	3.57	9.90	6.32	4.66	7.00
108	3.05	0.00	0.29	0.04	0.04	3.42	9.90	6.47	4.96	7.00

TABLE 9

DISSOLVED OXYGEN CALCULATED
UPGRADE SAN JOSE - 1985 - WET SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
109	2.81	0.00	0.33	0.07	0.06	3.28	10.12	6.84	5.27	7.11
110	2.61	0.00	0.36	0.11	0.09	3.17	10.12	6.95	5.42	7.10
111	2.30	0.00	0.39	0.22	0.10	3.03	10.10	7.07	5.59	7.10
112	1.85	0.00	0.40	0.41	0.13	2.80	10.06	7.26	5.85	7.09
113	0.22	0.00	0.75	0.59	0.39	1.97	10.08	8.10	6.96	7.09
114	0.33	0.00	0.70	0.63	0.30	1.97	9.99	8.01	6.87	7.04
115	0.39	0.00	0.56	0.61	0.21	1.79	9.95	8.15	7.06	7.02
116	0.45	0.00	0.51	0.61	0.17	1.76	9.93	8.17	7.09	7.01
117	0.50	0.00	0.47	0.59	0.14	1.72	9.92	8.19	7.13	7.01
118	0.03	0.00	0.05	6.88	0.75	7.72	9.86	2.14	0.00	6.98
119	0.07	0.00	0.28	2.85	0.27	3.49	9.63	6.13	4.50	6.97
120	0.16	0.00	0.45	1.18	0.11	1.91	9.53	7.61	6.48	6.92
121	0.31	0.00	1.02	0.26	0.81	2.41	10.34	7.92	6.63	7.21
122	1.64	0.00	1.64	0.39	0.30	4.00	10.30	6.30	4.51	7.19
123	1.04	0.00	1.17	0.35	0.22	2.78	10.14	7.35	5.95	7.11
124	0.64	0.00	0.68	0.32	0.19	1.82	9.83	8.01	6.91	6.96
125	0.31	0.01	0.53	0.30	0.07	1.22	9.54	8.31	7.71	6.93
126	0.01	0.00	0.02	2.46	0.67	3.16	9.80	6.63	5.11	6.95
127	0.02	0.01	0.30	1.08	0.16	1.59	9.27	7.67	6.65	6.70
128	0.08	0.03	0.48	0.97	0.05	1.60	9.16	7.56	6.53	6.55
129	0.00	0.00	0.00	1.23	0.84	2.08	10.28	8.20	7.02	7.18
130	0.00	0.00	0.00	4.36	0.70	5.09	9.90	4.81	2.67	7.00
131	0.01	0.00	0.06	5.84	0.35	6.27	9.56	3.29	0.76	6.94
132	0.04	0.01	0.37	2.76	0.12	3.30	9.27	5.96	4.39	6.70
133	0.06	0.05	0.67	1.24	0.05	2.09	9.16	7.06	5.88	6.65
134	0.09	0.07	0.58	0.75	0.04	1.55	9.13	7.58	6.57	6.54
135	1.36	0.05	0.37	0.35	0.10	2.25	9.39	7.13	5.90	6.76
136	1.08	0.06	0.42	0.37	0.09	2.05	9.30	7.25	6.05	6.72
137	0.77	0.09	0.44	0.39	0.08	1.77	9.22	7.45	6.37	6.58
138	0.52	0.10	0.44	0.39	0.06	1.53	9.17	7.63	6.63	6.55
139	0.32	0.12	0.43	0.38	0.05	1.33	9.13	7.79	6.85	6.53
140	0.06	0.03	0.45	0.41	0.12	1.09	9.23	8.13	7.27	6.59
141	0.09	0.05	0.43	0.34	0.06	0.98	9.17	8.18	7.35	6.65

TABLE 10

DISSOLVED OXYGEN CALCULATED
UPGRADE SAN JOSE - 1995 - DRY SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)			
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
1	1.35	0.00	0.33	0.90	0.00	2.60	8.71	6.11	4.77	6.44
2	0.93	0.00	0.33	0.93	0.00	2.19	8.53	6.33	5.11	6.35
3	0.46	0.00	0.33	0.92	0.00	1.71	8.33	6.62	5.56	6.26
4	0.37	0.00	0.32	0.73	0.00	1.44	8.20	6.75	5.78	6.19
5	0.25	0.00	0.32	0.70	0.00	1.29	8.05	6.76	5.83	6.12
6	0.17	0.00	0.33	0.68	0.00	1.19	7.93	6.74	5.84	6.06
7	0.12	0.01	0.32	0.55	0.00	1.03	7.84	6.81	5.96	6.02
8	0.11	0.01	0.33	0.52	0.00	0.99	7.90	6.91	5.98	6.00
9	0.09	0.03	0.32	0.50	0.00	0.96	7.86	6.89	6.07	6.03
10	0.09	0.05	0.32	0.49	0.00	0.95	7.87	6.91	6.09	6.03
11	0.09	0.04	0.32	0.50	0.00	0.97	7.83	6.85	6.03	6.02
12	0.09	0.04	0.32	0.50	0.00	0.96	7.83	6.86	6.04	6.02
13	0.08	0.06	0.33	0.51	0.00	0.99	7.79	6.79	5.96	6.00
14	0.09	0.05	0.33	0.50	0.00	0.98	7.79	6.81	5.99	6.00
15	0.09	0.05	0.32	0.46	0.00	0.93	7.80	6.87	6.06	6.00
16	0.09	0.06	0.33	0.54	0.00	1.04	7.78	6.74	5.89	5.99
17	0.09	0.07	0.33	0.52	0.00	1.02	7.79	6.76	5.93	6.00
18	0.09	0.06	0.31	0.47	0.00	0.95	7.79	6.84	6.02	6.00
19	0.09	0.07	0.33	0.56	0.00	1.07	7.78	6.70	5.84	5.99
20	0.10	0.09	0.33	0.54	0.00	1.06	7.78	6.72	5.86	5.99
21	0.09	0.06	0.31	0.47	0.00	0.95	7.79	6.83	6.01	6.00
22	0.10	0.09	0.34	0.60	0.00	1.13	7.78	6.64	5.77	5.99
23	0.12	0.11	0.35	0.57	0.00	1.16	7.77	6.60	5.72	5.99
24	0.11	0.09	0.32	0.51	0.00	1.04	7.78	6.73	5.88	5.99
25	0.13	0.13	0.37	0.61	0.00	1.25	7.76	6.50	5.59	5.99
26	0.13	0.14	0.38	0.60	0.00	1.27	7.76	6.49	5.57	5.99
27	0.10	0.12	0.46	0.57	0.00	1.25	7.77	6.52	5.60	5.99
28	0.12	0.17	0.39	0.61	0.00	1.31	7.75	6.43	5.50	5.99
29	0.11	0.20	0.42	0.60	0.00	1.34	7.86	6.52	5.58	6.03
30	0.08	0.25	0.46	0.53	0.00	1.34	7.83	6.49	5.55	6.02
31	0.09	0.25	0.45	0.54	0.00	1.34	7.84	6.50	5.55	6.02
32	0.04	0.22	0.45	0.56	0.00	1.29	7.82	6.52	5.59	6.01
33	0.05	0.27	0.49	0.44	0.00	1.26	7.81	6.54	5.62	6.01
34	0.05	0.30	0.48	0.46	0.00	1.31	7.81	6.50	5.56	6.01
35	0.04	0.31	0.48	0.44	0.00	1.29	7.80	6.51	5.58	6.00
36	0.03	0.26	0.49	0.64	0.00	1.44	7.80	6.36	5.39	6.00

TABLE 10

DISSOLVED OXYGEN CALCULATED
UPGRADE SAN JOSE - 1995 - DRY SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)			
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
37	0.04	0.24	0.50	0.41	0.00	1.22	7.81	6.59	5.68	6.01
38	0.06	0.30	0.50	0.44	0.00	1.30	7.81	6.50	5.57	6.01
39	0.02	0.34	0.50	0.32	0.00	1.19	7.78	6.58	5.69	5.99
40	0.02	0.28	0.50	0.67	0.00	1.49	7.79	6.30	5.30	6.00
41	0.04	0.22	0.51	0.45	0.00	1.23	7.80	6.57	5.66	6.00
42	0.04	0.31	0.52	0.43	0.00	1.30	7.80	6.49	5.56	6.00
43	0.01	0.34	0.50	0.25	0.00	1.12	7.78	6.65	5.79	5.99
44	0.01	0.26	0.49	0.56	0.00	1.33	7.78	6.45	5.51	5.99
45	0.02	0.24	0.51	0.37	0.00	1.16	7.80	6.63	5.75	6.00
46	0.02	0.31	0.52	0.32	0.00	1.20	7.79	6.59	5.69	6.00
47	0.00	0.32	0.50	0.19	0.00	1.03	7.77	6.74	5.90	5.99
48	0.00	0.24	0.48	0.35	0.00	1.09	7.78	6.69	5.82	5.99
49	0.02	0.21	0.50	0.36	0.00	1.11	7.79	6.68	5.81	6.00
50	0.02	0.30	0.53	0.30	0.00	1.16	7.78	6.61	5.73	5.99
51	0.00	0.28	0.50	0.15	0.00	0.96	7.77	6.81	5.99	5.99
52	0.00	0.23	0.49	0.22	0.00	0.96	7.77	6.81	5.99	5.99
53	0.02	0.19	0.50	0.36	0.00	1.09	7.78	6.70	5.84	5.99
54	0.02	0.25	0.53	0.32	0.00	1.13	7.75	6.62	5.74	5.98
55	0.00	0.26	0.49	0.14	0.00	0.91	7.77	6.86	6.06	5.99
56	0.00	0.22	0.51	0.15	0.00	0.89	7.77	6.87	6.07	5.99
57	0.01	0.20	0.56	0.31	0.00	1.10	7.48	6.38	5.52	5.85
58	0.02	0.29	0.66	0.39	0.00	1.37	7.38	6.00	5.04	5.90
59	0.00	0.20	0.49	0.11	0.00	0.81	7.78	6.96	6.18	5.99
60	0.00	0.17	0.51	0.09	0.00	0.78	7.75	6.97	6.21	5.98
61	0.01	0.14	0.50	0.24	0.00	0.90	7.49	6.58	5.75	5.96
62	0.00	0.10	0.33	0.15	0.00	0.59	8.18	7.59	6.89	6.19
63	0.00	0.19	0.48	0.11	0.00	0.79	7.78	6.99	6.22	5.99
64	0.00	0.15	0.57	0.05	0.00	0.79	7.72	6.92	6.16	5.96
65	0.00	0.12	0.49	0.19	0.00	0.82	7.52	6.70	5.92	5.97
66	0.00	0.10	0.44	0.15	0.00	0.71	7.87	7.15	6.41	6.05
67	0.00	0.22	0.47	0.09	0.00	0.79	7.76	6.96	6.20	5.98
68	0.00	0.18	0.61	0.04	0.00	0.84	7.71	6.86	6.07	5.96
69	0.00	0.10	0.50	0.15	0.00	0.77	7.82	7.05	6.29	6.01
70	0.00	0.13	0.49	0.13	0.00	0.76	8.00	7.24	6.48	6.10
71	0.00	0.30	0.47	0.03	0.00	0.81	7.96	7.14	6.37	6.09
72	[illegible]	0.27	0.58	0.02	0.00	0.87	7.94	7.06	6.27	6.07

TABLE 10

DISSOLVED OXYGEN CALCULATED
UPGRADE SAN JOSE - 1995 - DRY SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)			
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
73	0.00	0.12	0.51	0.09	0.00	0.74	7.83	7.09	6.35	6.02
74	0.00	0.25	0.45	0.05	0.00	0.77	7.93	7.16	6.40	6.06
75	0.00	0.37	0.44	0.01	0.00	0.84	7.94	7.10	6.32	6.07
76	0.00	0.35	0.45	0.03	0.00	0.84	7.91	7.06	6.28	6.05
77	0.00	0.44	0.41	0.02	0.00	0.87	7.92	7.04	6.25	6.06
78	0.00	0.50	0.34	0.01	0.00	0.86	7.94	7.08	6.29	6.07
79	0.00	0.21	0.40	0.00	0.00	0.62	7.94	7.32	6.61	6.07
80	0.00	0.44	0.44	0.02	0.00	0.91	7.92	7.01	6.21	6.06
81	0.00	0.51	0.34	0.01	0.00	0.87	7.94	7.06	6.27	6.07
82	0.00	0.54	0.25	0.01	0.00	0.81	7.95	7.14	6.37	6.07
83	0.00	0.52	0.24	0.01	0.00	0.78	7.95	7.17	6.41	6.07
84	0.00	0.52	0.20	0.00	0.00	0.73	7.96	7.23	6.48	6.08
85	0.00	0.50	0.16	0.00	0.00	0.68	7.96	7.28	6.55	6.09
86	0.00	0.49	0.16	0.00	0.00	0.65	7.96	7.31	6.58	6.09
87	0.00	0.24	0.02	0.00	0.00	0.26	8.09	7.82	7.23	6.14
88	0.00	0.49	0.12	0.00	0.00	0.61	8.12	7.51	6.80	6.16
89	0.00	0.36	0.10	0.00	0.00	0.46	8.12	7.65	6.99	6.16
90	0.00	0.21	0.02	0.00	0.00	0.23	8.13	7.90	7.30	6.15
91	0.00	0.29	0.06	0.00	0.00	0.35	8.14	7.79	7.16	6.17
92	0.00	0.22	0.05	0.00	0.00	0.29	8.13	7.85	7.24	6.16
93	0.00	0.12	0.02	0.00	0.00	0.14	8.10	7.95	7.39	6.14
94	0.00	0.04	0.00	0.00	0.00	0.05	8.22	8.16	7.64	6.20
95	0.00	0.14	0.02	0.00	0.00	0.17	8.20	8.03	7.47	6.19
96	0.00	0.09	0.01	0.00	0.00	0.10	8.20	8.10	7.56	6.19
97	0.00	0.09	0.01	0.00	0.00	0.09	8.10	8.00	7.46	6.14
98	0.19	0.00	0.20	1.94	0.00	2.34	8.71	6.37	5.11	6.44
99	0.34	0.00	0.09	3.08	0.00	3.53	8.71	5.18	3.54	6.44
100	0.56	0.00	0.24	4.28	0.00	5.09	8.71	3.62	1.48	6.44
101	0.74	0.00	0.29	4.55	0.00	5.59	8.71	3.12	0.92	6.44
102	1.00	0.00	0.39	3.36	0.00	4.76	8.71	3.95	1.92	6.44
103	4.31	0.00	0.00	0.00	0.00	4.32	8.25	3.93	2.03	6.22
104	4.29	0.00	0.02	0.00	0.00	4.31	8.25	3.94	2.04	6.22
105	4.26	0.00	0.03	0.00	0.00	4.30	8.40	4.10	2.21	6.29
106	4.05	0.00	0.10	0.02	0.00	4.17	8.40	4.22	2.37	6.29
107	3.61	0.00	0.21	0.05	0.00	3.88	8.40	4.52	2.76	6.29
108	3.34	0.00	0.24	0.07	0.00	3.65	8.55	4.90	3.21	6.36

TABLE 10

DISSOLVED OXYGEN CALCULATED
UPGRADE SAN JOSE - 1995 - DRY SEASON
DO DEFICIT COMPONENTS (MG/L)

SEGMENT	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)		90TH PERCENTILE	
	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	DO	DO STANDARD
109	3.05	0.00	0.28	0.10	0.00	3.44	8.55	5.11	3.49	6.36
110	2.81	0.00	0.30	0.15	0.00	3.27	8.55	5.27	3.71	6.36
111	2.45	0.00	0.33	0.31	0.00	3.10	8.68	5.58	4.08	6.42
112	1.94	0.00	0.34	0.60	0.00	2.88	8.62	5.74	4.30	6.39
113	0.28	0.00	0.83	1.48	0.00	2.61	8.33	5.72	4.37	6.26
114	0.32	0.00	0.64	1.18	0.00	2.15	8.33	6.18	4.98	6.26
115	0.35	0.00	0.48	1.02	0.00	1.87	8.33	6.46	5.35	6.26
116	0.40	0.00	0.43	0.98	0.00	1.83	8.33	6.50	5.40	6.26
117	0.45	0.00	0.40	0.94	0.00	1.80	8.33	6.53	5.44	6.26
118	0.03	0.00	0.05	7.88	0.00	7.96	7.93	-0.03	0.00	6.06
119	0.05	0.00	0.24	4.99	0.00	5.30	7.93	2.62	0.41	6.06
120	0.12	0.00	0.38	1.94	0.00	2.45	7.93	5.47	4.17	6.06
121	0.76	0.00	0.96	0.64	0.00	2.37	8.73	6.36	5.09	6.45
122	2.13	0.00	1.40	0.66	0.00	4.19	8.73	4.53	2.68	6.45
123	1.30	0.00	0.97	0.50	0.00	2.78	8.51	5.72	4.32	6.34
124	0.76	0.00	0.56	0.43	0.00	1.76	8.19	6.42	5.35	6.19
125	0.32	0.00	0.44	0.40	0.00	1.18	7.95	6.77	5.88	6.07
126	0.00	0.00	0.02	5.28	0.00	5.31	7.65	2.34	0.12	5.93
127	0.01	0.00	0.26	1.63	0.00	1.92	7.65	5.73	4.60	5.93
128	0.04	0.02	0.41	1.57	0.00	2.05	7.65	5.60	4.43	5.93
129	0.00	0.00	0.00	6.59	0.00	6.60	7.65	1.04	0.00	5.93
130	0.00	0.00	0.01	6.64	0.00	6.66	7.65	0.98	0.00	5.93
131	0.00	0.00	0.05	6.08	0.00	6.15	7.65	1.49	0.00	5.93
132	0.02	0.01	0.32	4.84	0.00	5.20	7.65	2.44	0.26	5.93
133	0.05	0.03	0.59	2.20	0.00	2.89	7.65	4.76	3.32	5.93
134	0.07	0.05	0.50	1.29	0.00	1.94	7.65	5.70	4.57	5.93
135	1.40	0.04	0.32	0.59	0.00	2.45	7.87	5.42	4.12	6.04
136	1.17	0.05	0.36	0.61	0.00	2.20	7.80	5.59	4.37	6.00
137	0.82	0.07	0.37	0.60	0.00	1.85	7.73	5.85	4.74	5.97
138	0.54	0.09	0.37	0.60	0.00	1.61	7.69	6.07	5.04	5.95
139	0.32	0.10	0.37	0.58	0.00	1.39	7.66	6.27	5.31	5.94
140	0.05	0.02	0.40	0.72	0.00	1.20	7.67	6.46	5.56	5.94
141	0.07	0.03	0.37	0.53	0.00	1.01	7.67	6.65	5.81	5.94

TABLE II

DISSOLVED OXYGEN CALCULATED
UPGRADE SAN JOSE - 1995 - CANNING SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
1	1.41	0.00	0.33	0.90	0.00	2.65	8.71	6.06	4.69	6.44
2	0.98	0.00	0.33	0.93	0.00	2.25	8.53	6.27	5.04	6.35
3	0.59	0.00	0.33	0.82	0.00	1.75	8.33	6.58	5.51	6.26
4	0.41	0.00	0.32	0.73	0.00	1.47	8.20	6.72	5.73	6.19
5	0.28	0.00	0.32	0.70	0.00	1.32	8.05	6.73	5.80	6.12
6	0.19	0.00	0.33	0.68	0.00	1.21	7.93	6.71	5.81	6.06
7	0.14	0.01	0.32	0.55	0.00	1.05	7.84	6.79	5.94	6.02
8	0.13	0.01	0.33	0.52	0.00	1.01	7.80	6.79	5.96	6.00
9	0.10	0.03	0.32	0.50	0.00	0.97	7.86	6.88	6.06	6.03
10	0.10	0.03	0.32	0.49	0.00	0.96	7.87	6.90	6.07	6.03
11	0.10	0.04	0.32	0.50	0.00	0.98	7.83	6.84	6.02	6.02
12	0.10	0.04	0.32	0.50	0.00	0.97	7.83	6.85	6.03	6.02
13	0.09	0.05	0.33	0.51	0.00	0.99	7.79	6.79	5.96	6.00
14	0.09	0.05	0.33	0.50	0.00	0.98	7.79	6.81	5.99	6.00
15	0.09	0.05	0.32	0.46	0.00	0.93	7.80	6.86	6.05	6.00
16	0.09	0.06	0.33	0.54	0.00	1.05	7.78	6.73	5.88	5.99
17	0.10	0.07	0.33	0.52	0.00	1.02	7.79	6.76	5.92	6.00
18	0.09	0.06	0.31	0.47	0.00	0.95	7.79	6.83	6.01	6.00
19	0.10	0.07	0.33	0.56	0.00	1.08	7.78	6.70	5.84	5.99
20	0.10	0.08	0.33	0.54	0.00	1.06	7.78	6.71	5.86	5.99
21	0.10	0.05	0.31	0.47	0.00	0.96	7.79	6.83	6.01	6.00
22	0.11	0.09	0.34	0.60	0.00	1.14	7.78	6.64	5.76	5.99
23	0.12	0.11	0.35	0.57	0.00	1.17	7.77	6.60	5.71	5.99
24	0.12	0.09	0.32	0.51	0.00	1.05	7.78	6.73	5.88	5.99
25	0.13	0.15	0.37	0.61	0.00	1.26	7.76	6.50	5.58	5.98
26	0.15	0.14	0.38	0.60	0.00	1.27	7.76	6.48	5.56	5.99
27	0.19	0.12	0.36	0.57	0.00	1.25	7.77	6.51	5.60	5.99
28	0.13	0.17	0.39	0.61	0.00	1.31	7.75	6.43	5.49	5.98
29	0.11	0.20	0.42	0.60	0.00	1.34	7.86	6.52	5.57	6.03
30	0.08	0.25	0.46	0.53	0.00	1.34	7.83	6.48	5.54	6.02
31	0.08	0.25	0.45	0.54	0.00	1.34	7.84	6.49	5.55	6.02
32	0.05	0.22	0.45	0.56	0.00	1.30	7.82	6.52	5.59	6.01
33	0.05	0.27	0.49	0.44	0.00	1.27	7.81	6.54	5.62	6.01
34	0.05	0.30	0.48	0.46	0.00	1.31	7.81	6.49	5.56	6.01
35	0.05	0.31	0.49	0.44	0.00	1.29	7.80	6.50	5.58	6.00
36	0.08	0.24	0.49	0.64	0.00	1.44	7.80	6.36	5.39	6.00

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TABLE 11

DISSOLVED OXYGEN CALCULATED
UPGRADE SAN JOSE - 1995 - CANNING SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
37	0.04	0.24	0.50	0.41	0.00	1.22	7.81	6.58	5.68	6.01
38	0.05	0.30	0.50	0.44	0.00	1.30	7.81	6.50	5.57	6.01
39	0.02	0.34	0.50	0.32	0.00	1.19	7.78	6.58	5.69	5.99
40	0.02	0.28	0.50	0.67	0.00	1.49	7.79	6.29	5.30	6.00
41	0.04	0.22	0.51	0.45	0.00	1.23	7.80	6.57	5.66	6.00
42	0.04	0.31	0.52	0.43	0.00	1.30	7.80	6.49	5.56	6.00
43	0.01	0.34	0.50	0.25	0.00	1.12	7.78	6.65	5.78	5.99
44	0.01	0.26	0.49	0.56	0.00	1.33	7.78	6.44	5.50	5.99
45	0.03	0.24	0.51	0.37	0.00	1.16	7.80	6.63	5.75	6.00
46	0.02	0.31	0.52	0.32	0.00	1.20	7.79	6.59	5.69	6.00
47	0.00	0.32	0.50	0.19	0.00	1.03	7.77	6.74	5.90	5.99
48	0.00	0.24	0.48	0.35	0.00	1.09	7.78	6.69	5.82	5.99
49	0.02	0.21	0.50	0.36	0.00	1.11	7.79	6.68	5.81	6.00
50	0.02	0.30	0.53	0.30	0.00	1.16	7.78	6.61	5.73	5.99
51	0.00	0.28	0.50	0.16	0.00	0.96	7.77	6.81	5.99	5.99
52	0.00	0.23	0.49	0.22	0.00	0.96	7.77	6.81	5.99	5.99
53	0.02	0.19	0.50	0.36	0.00	1.08	7.78	6.70	5.84	5.99
54	0.02	0.25	0.53	0.32	0.00	1.13	7.75	6.62	5.74	5.98
55	0.00	0.25	0.49	0.14	0.00	0.91	7.77	6.86	6.06	5.99
56	0.00	0.22	0.51	0.15	0.00	0.89	7.77	6.87	6.07	5.99
57	0.01	0.20	0.56	0.31	0.00	1.10	7.48	6.38	5.52	5.95
58	0.02	0.29	0.66	0.39	0.00	1.37	7.38	6.00	5.04	5.90
59	0.00	0.20	0.49	0.11	0.00	0.81	7.78	6.96	6.18	5.99
60	0.00	0.17	0.51	0.09	0.00	0.78	7.75	6.97	6.21	5.99
61	0.01	0.14	0.50	0.24	0.00	0.90	7.49	6.58	5.78	5.86
62	0.00	0.10	0.33	0.15	0.00	0.59	8.18	7.59	6.89	6.18
63	0.00	0.19	0.48	0.11	0.00	0.79	7.78	6.98	6.22	5.99
64	0.00	0.15	0.57	0.05	0.00	0.79	7.72	6.92	6.16	5.96
65	0.00	0.12	0.49	0.14	0.00	0.82	7.52	6.70	5.92	5.87
66	0.00	0.10	0.44	0.15	0.00	0.71	7.87	7.15	6.41	6.03
67	0.00	0.22	0.47	0.09	0.00	0.79	7.76	6.96	6.20	5.98
68	0.00	0.18	0.61	0.04	0.00	0.84	7.71	6.86	6.07	5.96
69	0.00	0.10	0.50	0.15	0.00	0.77	7.82	7.05	6.29	6.01
70	0.00	0.13	0.49	0.13	0.00	0.76	8.00	7.24	6.48	6.10
71	0.00	0.30	0.47	0.03	0.00	0.81	7.96	7.14	6.37	6.09
72	0.00	0.27	0.58	0.02	0.00	0.87	7.94	7.06	6.27	6.07

TABLE 11

DISSOLVED OXYGEN CALCULATED
UPGRADE SAN JOSE - 1995 - CANNING SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
73	0.00	0.12	0.51	0.09	0.00	0.74	7.83	7.09	6.35	6.02
74	0.00	0.29	0.45	0.05	0.00	0.77	7.93	7.16	6.40	6.06
75	0.00	0.37	0.44	0.01	0.00	0.84	7.94	7.10	6.32	6.07
76	0.00	0.35	0.45	0.03	0.00	0.84	7.91	7.06	6.28	6.05
77	0.00	0.44	0.41	0.02	0.00	0.87	7.92	7.04	6.25	6.06
78	0.00	0.50	0.34	0.01	0.00	0.86	7.94	7.08	6.29	6.07
79	0.00	0.21	0.40	0.00	0.00	0.62	7.94	7.32	6.61	6.07
80	0.00	0.44	0.44	0.02	0.00	0.91	7.92	7.01	6.21	6.06
81	0.00	0.51	0.34	0.01	0.00	0.87	7.94	7.06	6.27	6.07
82	0.00	0.54	0.25	0.01	0.00	0.81	7.95	7.14	6.37	6.07
83	0.00	0.52	0.24	0.01	0.00	0.78	7.95	7.17	6.41	6.07
84	0.00	0.52	0.20	0.00	0.00	0.73	7.96	7.23	6.48	6.08
85	0.00	0.50	0.15	0.00	0.00	0.68	7.96	7.28	6.55	6.09
86	0.00	0.49	0.16	0.00	0.00	0.65	7.96	7.31	6.58	6.08
87	0.00	0.24	0.02	0.00	0.00	0.26	8.09	7.82	7.23	6.14
88	0.00	0.49	0.12	0.00	0.00	0.61	8.12	7.51	6.80	6.16
89	0.00	0.36	0.10	0.00	0.00	0.46	8.12	7.65	6.99	6.16
90	0.00	0.21	0.02	0.00	0.00	0.23	8.13	7.89	7.30	6.16
91	0.00	0.29	0.06	0.00	0.00	0.35	8.14	7.79	7.16	6.17
92	0.00	0.22	0.05	0.00	0.00	0.28	8.13	7.85	7.24	6.16
93	0.00	0.12	0.02	0.00	0.00	0.14	8.10	7.95	7.39	6.14
94	0.00	0.04	0.00	0.00	0.00	0.05	8.22	8.16	7.64	6.20
95	0.00	0.14	0.02	0.00	0.00	0.17	8.20	8.03	7.47	6.19
96	0.00	0.09	0.01	0.00	0.00	0.10	8.20	8.10	7.56	6.19
97	0.00	0.09	0.01	0.00	0.00	0.09	8.10	8.00	7.46	6.14
98	0.17	0.00	0.20	1.94	0.00	2.32	8.71	6.39	5.13	6.44
99	0.31	0.00	0.09	3.08	0.00	3.50	8.71	5.21	3.58	6.44
100	0.52	0.00	0.24	4.28	0.00	5.05	8.71	3.66	1.53	6.44
101	0.70	0.00	0.29	4.55	0.00	5.55	8.71	3.16	0.87	6.44
102	0.98	0.00	0.38	3.36	0.00	4.73	8.71	3.98	1.95	6.44
103	3.99	0.00	0.00	0.00	0.00	3.99	8.25	4.25	2.46	6.22
104	3.97	0.00	0.02	0.00	0.00	3.99	8.25	4.25	2.46	6.22
105	3.96	0.00	0.03	0.00	0.00	3.99	8.40	4.41	2.62	6.29
106	3.79	0.00	0.10	0.02	0.00	3.91	8.40	4.49	2.72	6.29
107	3.44	0.00	0.21	0.05	0.00	3.71	8.40	4.68	2.98	6.29
108	3.17	0.00	0.24	0.07	0.00	3.50	8.55	5.05	3.42	6.36

TABLE 11

DISSOLVED OXYGEN CALCULATED
UPGRADE SAN JOSE - 1995 - CANNING SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
109	2.94	0.00	0.28	0.10	0.00	3.33	8.55	5.22	3.64	6.36
110	2.73	0.00	0.30	0.15	0.00	3.20	8.55	5.35	3.81	6.36
111	2.52	0.00	0.33	0.31	0.00	3.17	8.68	5.51	3.99	6.42
112	2.04	0.00	0.34	0.60	0.00	2.98	8.62	5.63	4.16	6.39
113	0.29	0.00	0.83	1.48	0.00	2.62	8.33	5.71	4.36	6.26
114	0.33	0.00	0.64	1.18	0.00	2.16	8.33	6.17	4.96	6.26
115	0.37	0.00	0.48	1.02	0.00	1.88	8.33	6.45	5.34	6.26
116	0.41	0.00	0.43	0.98	0.00	1.84	8.33	6.48	5.38	6.26
117	0.48	0.00	0.40	0.94	0.00	1.82	8.33	6.51	5.41	6.26
118	0.03	0.00	0.05	7.88	0.00	7.97	7.93	-0.03	0.00	6.06
119	0.06	0.00	0.24	4.99	0.00	5.31	7.93	2.61	0.40	6.06
120	0.14	0.00	0.38	1.94	0.00	2.47	7.93	5.45	4.15	6.06
121	0.91	0.00	0.96	0.64	0.00	2.52	8.73	6.21	4.89	6.45
122	2.55	0.00	1.40	0.66	0.00	4.61	8.73	4.12	2.13	6.45
123	1.66	0.00	0.97	0.50	0.00	3.14	8.51	5.36	3.84	6.34
124	1.05	0.00	0.56	0.43	0.00	2.05	8.19	6.14	4.97	6.19
125	0.44	0.00	0.44	0.40	0.00	1.30	7.95	6.65	5.72	6.07
126	0.00	0.00	0.02	5.28	0.00	5.31	7.65	2.34	0.12	5.93
127	0.01	0.00	0.26	1.63	0.00	1.92	7.65	5.73	4.60	5.93
128	0.04	0.02	0.41	1.57	0.00	2.05	7.65	5.60	4.43	5.93
129	0.00	0.00	0.00	6.59	0.00	6.60	7.65	1.04	0.00	5.93
130	0.00	0.00	0.01	6.64	0.00	6.66	7.65	0.98	0.00	5.93
131	0.00	0.00	0.05	5.09	0.00	6.15	7.65	1.49	0.00	5.93
132	0.02	0.01	0.32	4.94	0.00	5.20	7.65	2.44	0.26	5.93
133	0.05	0.03	0.59	2.20	0.00	2.89	7.65	4.75	3.32	5.93
134	0.08	0.05	0.50	1.29	0.00	1.94	7.65	5.70	4.56	5.93
135	1.49	0.04	0.32	0.59	0.00	2.45	7.87	5.42	4.12	6.04
136	1.19	0.05	0.36	0.61	0.00	2.21	7.80	5.59	4.37	6.00
137	0.82	0.07	0.37	0.60	0.00	1.88	7.73	5.85	4.73	5.97
138	0.54	0.09	0.37	0.60	0.00	1.62	7.69	6.07	5.04	5.95
139	0.32	0.10	0.37	0.58	0.00	1.39	7.66	6.26	5.30	5.94
140	0.05	0.02	0.40	0.72	0.00	1.21	7.67	6.45	5.55	5.94
141	0.07	0.03	0.37	0.53	0.00	1.02	7.67	6.65	5.81	5.94

TABLE 12

DISSOLVED OXYGEN CALCULATED
UPGRADE SAN JOSE - 1995 - WET SEASON
DO DEFICIT COMPONENTS (MG/L)

SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO (MG/L) DO	90TH PERCENTILE DO	90TH PERCENTILE DO STANDARD
1	1.41	0.00	0.39	0.59	0.15	2.56	10.24	7.68	6.35	7.16
2	1.00	0.00	0.39	0.60	0.13	2.14	10.09	7.95	6.75	7.09
3	0.62	0.00	0.39	0.53	0.10	1.66	9.91	8.24	7.20	7.01
4	0.44	0.00	0.39	0.49	0.08	1.41	9.78	8.36	7.40	6.94
5	0.32	0.00	0.38	0.47	0.06	1.25	9.62	8.37	7.45	6.87
6	0.22	0.01	0.39	0.46	0.05	1.15	9.49	8.33	7.45	6.80
7	0.17	0.02	0.39	0.38	0.04	1.02	9.38	8.35	7.51	6.75
8	0.16	0.02	0.39	0.36	0.04	0.99	9.33	8.34	7.51	6.73
9	0.13	0.04	0.39	0.35	0.03	0.96	9.44	8.47	7.65	6.79
10	0.13	0.04	0.39	0.34	0.03	0.95	9.45	8.49	7.67	6.79
11	0.12	0.05	0.39	0.35	0.03	0.97	9.40	8.43	7.60	6.76
12	0.12	0.05	0.39	0.34	0.03	0.96	9.39	8.43	7.61	6.76
13	0.11	0.07	0.39	0.34	0.03	0.97	9.34	8.36	7.53	6.73
14	0.12	0.07	0.39	0.34	0.03	0.97	9.35	8.37	7.55	6.74
15	0.11	0.06	0.38	0.32	0.03	0.93	9.36	8.42	7.61	6.74
16	0.12	0.09	0.40	0.36	0.04	1.01	9.33	8.32	7.48	6.73
17	0.12	0.08	0.39	0.35	0.04	1.00	9.34	8.33	7.50	6.73
18	0.12	0.09	0.38	0.32	0.03	0.95	9.34	8.39	7.57	6.73
19	0.12	0.09	0.40	0.39	0.04	1.04	9.33	8.28	7.43	6.73
20	0.13	0.09	0.40	0.36	0.04	1.04	9.33	8.29	7.44	6.73
21	0.12	0.09	0.38	0.32	0.03	0.95	9.34	8.38	7.56	6.73
22	0.13	0.10	0.40	0.40	0.04	1.04	9.32	8.23	7.37	6.73
23	0.14	0.13	0.42	0.38	0.04	1.13	9.31	8.17	7.30	6.72
24	0.14	0.10	0.39	0.35	0.04	1.03	9.32	8.29	7.44	6.73
25	0.15	0.15	0.43	0.40	0.05	1.21	9.29	8.08	7.18	6.71
26	0.15	0.15	0.44	0.40	0.05	1.22	9.29	8.06	7.15	6.71
27	0.21	0.13	0.43	0.38	0.05	1.21	9.31	8.09	7.19	6.72
28	0.15	0.19	0.46	0.40	0.05	1.26	9.27	8.00	7.08	6.70
29	0.13	0.22	0.49	0.39	0.05	1.30	9.46	8.15	7.23	6.79
30	0.09	0.27	0.54	0.34	0.05	1.32	9.41	8.09	7.15	6.77
31	0.10	0.27	0.52	0.35	0.05	1.31	9.42	8.10	7.17	6.77
32	0.06	0.25	0.53	0.35	0.04	1.25	9.38	8.13	7.21	6.75
33	0.06	0.29	0.57	0.29	0.04	1.26	9.38	8.11	7.19	6.75
34	0.06	0.31	0.56	0.30	0.04	1.29	9.39	8.08	7.15	6.75
35	0.06	0.33	0.56	0.28	0.04	1.28	9.37	8.08	7.16	6.75
36	0.04	0.29	0.57	0.39	0.05	1.35	9.36	8.01	7.06	6.74

TABLE 12

DISSOLVED OXYGEN CALCULATED
UPGRADE SAN JOSE - 1995 - WET SEASON
DO DEFICIT COMPONENTS (MG/L)

SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
37	0.06	0.26	0.58	0.27	0.04	1.23	9.38	8.14	7.23	6.75
38	0.06	0.32	0.57	0.29	0.04	1.29	9.37	8.07	7.14	6.75
39	0.02	0.36	0.57	0.21	0.03	1.21	9.33	8.12	7.22	6.73
40	0.03	0.31	0.58	0.40	0.05	1.38	9.34	7.96	7.00	6.74
41	0.05	0.24	0.59	0.28	0.04	1.22	9.37	8.15	7.25	6.75
42	0.05	0.32	0.59	0.27	0.04	1.30	9.36	8.06	7.13	6.74
43	0.01	0.36	0.58	0.16	0.03	1.15	9.32	8.16	7.28	6.72
44	0.02	0.29	0.57	0.33	0.04	1.26	9.33	8.06	7.15	6.73
45	0.03	0.26	0.59	0.24	0.03	1.17	9.36	8.18	7.29	6.74
46	0.03	0.33	0.60	0.21	0.03	1.22	9.34	8.12	7.21	6.73
47	0.01	0.34	0.57	0.12	0.02	1.09	9.31	8.22	7.36	6.72
48	0.01	0.24	0.57	0.21	0.03	1.10	9.32	8.21	7.35	6.72
49	0.03	0.24	0.58	0.23	0.03	1.12	9.36	8.23	7.35	6.74
50	0.03	0.32	0.61	0.19	0.03	1.20	9.34	8.13	7.24	6.73
51	0.01	0.31	0.57	0.11	0.02	1.04	9.31	8.27	7.42	6.72
52	0.00	0.26	0.58	0.14	0.03	1.03	9.31	8.27	7.43	6.72
53	0.03	0.22	0.58	0.22	0.03	1.10	9.35	8.25	7.39	6.74
54	0.02	0.28	0.61	0.20	0.03	1.17	9.31	8.14	7.26	6.72
55	0.00	0.25	0.57	0.10	0.02	0.99	9.31	8.31	7.48	6.72
56	0.00	0.25	0.59	0.10	0.03	1.00	9.30	8.30	7.47	6.72
57	0.02	0.24	0.66	0.20	0.03	1.17	9.03	7.85	6.96	6.59
58	0.03	0.33	0.77	0.25	0.03	1.42	8.91	7.48	6.51	6.53
59	0.00	0.24	0.55	0.08	0.01	0.91	9.31	8.39	7.59	6.72
60	0.00	0.20	0.59	0.06	0.02	0.90	9.28	8.37	7.57	6.71
61	0.01	0.18	0.60	0.16	0.02	1.00	9.04	8.04	7.20	6.59
62	0.01	0.12	0.38	0.10	0.01	0.63	9.80	7.16	8.44	6.95
63	0.00	0.23	0.55	0.08	0.01	0.89	9.32	8.42	7.62	6.72
64	0.00	0.19	0.66	0.04	0.01	0.92	9.23	8.31	7.50	6.68
65	0.01	0.15	0.58	0.14	0.02	0.93	9.08	8.14	7.33	6.61
66	0.01	0.13	0.51	0.11	0.01	0.79	9.46	8.66	7.90	6.79
67	0.00	0.25	0.53	0.06	0.01	0.89	9.27	8.38	7.58	6.70
68	0.00	0.22	0.69	0.03	0.01	0.97	9.21	8.23	7.41	6.67
69	0.01	0.14	0.58	0.11	0.02	0.88	9.11	8.23	7.44	6.63
70	0.00	0.17	0.55	0.10	0.01	0.86	9.28	8.42	7.63	6.71
71	0.00	0.33	0.53	0.03	0.00	0.91	9.16	8.24	7.43	6.65
72	0.00	0.31	0.64	0.01	0.00	0.99	9.13	8.15	7.32	6.54

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TABLE 12

DISSOLVED OXYGEN CALCULATED
UPGRADE SAN JOSE - 1995 - WET SEASON

DO DEFICIT COMPONENTS (MG/L)					DO (MG/L)			
OTHER CHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
0.15	0.50	0.08	0.01	0.84	9.12	8.27	7.49	6.53
0.29	0.51	0.05	0.01	0.87	9.13	8.26	7.46	6.53
0.40	0.49	0.01	0.00	0.92	9.11	8.18	7.37	6.52
0.36	0.50	0.03	0.01	0.91	9.09	8.17	7.36	6.51
0.45	0.45	0.02	0.00	0.94	9.08	8.14	7.32	6.51
0.51	0.37	0.01	0.00	0.91	9.06	8.15	7.35	6.50
0.23	0.45	0.00	0.00	0.69	9.06	8.36	7.63	6.50
0.44	0.48	0.02	0.00	0.97	9.08	8.10	7.28	6.61
0.50	0.38	0.01	0.00	0.91	9.07	8.15	7.35	6.60
0.53	0.28	0.01	0.00	0.83	9.06	8.22	7.44	6.60
0.51	0.27	0.01	0.00	0.80	9.06	8.25	7.48	6.60
0.50	0.22	0.00	0.00	0.74	9.05	8.31	7.56	6.50
0.48	0.19	0.00	0.00	0.69	9.06	8.36	7.63	6.50
0.46	0.18	0.00	0.00	0.66	9.05	8.39	7.66	6.50
0.25	0.02	0.00	0.00	0.28	9.27	8.99	8.39	6.70
0.45	0.13	0.00	0.00	0.61	9.27	8.66	7.95	6.70
0.35	0.11	0.00	0.00	0.47	9.25	8.77	8.11	6.69
0.22	0.02	0.00	0.00	0.25	9.28	9.02	8.43	6.70
0.27	0.07	0.00	0.00	0.34	9.27	8.92	8.30	6.70
0.21	0.05	0.00	0.00	0.29	9.24	8.96	8.35	6.69
0.12	0.02	0.00	0.00	0.15	9.17	9.01	8.45	6.65
0.04	0.01	0.00	0.00	0.05	9.07	9.02	8.49	6.61
0.12	0.02	0.00	0.00	0.15	9.35	9.20	8.64	6.74
0.08	0.01	0.00	0.00	0.09	9.34	9.24	8.69	6.73
0.09	0.01	0.00	0.00	0.11	9.17	9.06	8.51	6.65
0.00	0.06	0.00	0.50	0.57	10.36	9.79	9.09	7.22
0.00	0.06	0.14	0.91	1.15	10.36	9.20	8.32	7.22
0.00	0.21	1.08	1.03	2.59	10.32	7.73	6.38	7.20
0.00	0.31	1.92	0.77	3.56	10.29	6.72	5.06	7.18
0.00	0.44	1.79	0.42	3.60	10.26	6.65	4.98	7.17
0.00	0.00	0.00	0.00	4.13	9.08	4.94	3.11	6.61
0.00	0.02	0.00	0.00	4.13	9.27	5.13	3.30	6.70
0.00	0.03	0.00	0.00	4.12	9.47	5.34	3.51	6.79
0.00	0.12	0.01	0.01	4.06	9.68	5.61	3.80	6.89
0.00	0.25	0.03	0.03	3.86	9.90	6.03	4.28	7.00
0.00	0.29	0.04	0.04	3.65	9.90	6.24	4.55	7.00

TABLE 12

DISSOLVED OXYGEN CALCULATED
UPGRADE SAN JOSE - 1995 - WET SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)			
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
109	3.07	0.00	0.33	0.07	0.06	3.54	10.12	6.58	4.94	7.11
110	2.86	0.00	0.36	0.11	0.08	3.41	10.12	6.71	5.11	7.10
111	2.54	0.00	0.39	0.22	0.10	3.25	10.10	6.86	5.31	7.10
112	2.00	0.00	0.40	0.41	0.13	2.95	10.06	7.11	5.65	7.08
113	0.23	0.00	0.75	0.59	0.39	1.97	10.08	8.10	6.96	7.05
114	0.33	0.00	0.70	0.63	0.30	1.97	9.99	8.01	6.87	7.04
115	0.40	0.00	0.56	0.61	0.21	1.80	9.95	8.14	7.05	7.02
116	0.48	0.00	0.51	0.61	0.17	1.77	9.93	8.16	7.08	7.01
117	0.52	0.00	0.47	0.59	0.14	1.74	9.92	8.18	7.11	7.01
118	0.03	0.00	0.05	6.88	0.75	7.72	9.86	2.13	0.00	6.98
119	0.08	0.00	0.28	2.85	0.27	3.50	9.63	6.13	4.49	6.97
120	0.17	0.00	0.45	1.18	0.11	1.92	9.53	7.60	6.47	6.92
121	0.39	0.00	1.02	0.26	0.81	2.49	10.34	7.84	6.53	7.21
122	2.06	0.00	1.64	0.39	0.30	4.41	10.30	5.89	3.96	7.19
123	1.44	0.00	1.17	0.35	0.22	3.19	10.14	6.94	5.41	7.11
124	0.98	0.00	0.68	0.32	0.14	2.15	9.83	7.67	6.47	6.96
125	0.46	0.01	0.53	0.30	0.07	1.37	9.54	8.16	7.21	6.93
126	0.00	0.00	0.02	2.46	0.67	3.16	9.80	6.63	5.11	6.95
127	0.02	0.01	0.30	1.08	0.16	1.59	9.27	7.57	6.65	6.70
128	0.06	0.03	0.49	0.97	0.05	1.60	9.16	7.55	6.53	6.65
129	0.00	0.00	0.00	1.23	0.84	2.08	10.28	8.20	7.02	7.18
130	0.00	0.00	0.00	4.36	0.70	5.09	9.90	4.81	2.67	7.00
131	0.01	0.00	0.06	5.84	0.35	6.27	9.56	3.29	0.76	6.94
132	0.03	0.01	0.37	2.76	0.12	3.31	9.27	5.96	4.39	6.70
133	0.07	0.05	0.67	1.24	0.05	2.10	9.16	7.06	5.88	6.65
134	0.10	0.07	0.58	0.75	0.04	1.56	9.13	7.57	6.56	6.64
135	1.39	0.05	0.37	0.35	0.10	2.28	9.39	7.10	5.86	6.76
136	1.11	0.06	0.42	0.37	0.09	2.07	9.30	7.22	6.05	6.72
137	0.79	0.08	0.44	0.38	0.08	1.79	9.22	7.43	6.34	6.68
138	0.55	0.10	0.44	0.39	0.06	1.55	9.17	7.61	6.61	6.65
139	0.35	0.12	0.43	0.38	0.05	1.34	9.13	7.78	6.84	6.63
140	0.07	0.05	0.45	0.41	0.12	1.09	9.23	8.13	7.26	6.58
141	0.09	0.05	0.43	0.34	0.06	0.99	9.17	8.18	7.34	6.65

TABLE 13

DISSOLVED OXYGEN CALCULATED
DEEP WATER DISCHARGE - 1985 - DRY SEASON
DO DEFICIT COMPONENTS (MG/L)

SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
1	0.04	0.00	0.34	1.43	0.00	1.82	7.67	5.85	4.75	5.94
2	0.06	0.00	0.33	1.14	0.00	1.54	7.68	6.14	5.13	5.95
3	0.08	0.00	0.33	0.86	0.00	1.28	7.69	6.40	5.47	5.95
4	0.11	0.00	0.32	0.72	0.00	1.16	7.69	6.53	5.64	5.95
5	0.16	0.00	0.32	0.65	0.00	1.15	7.70	6.54	5.66	5.95
6	0.23	0.00	0.32	0.63	0.00	1.20	7.70	6.50	5.60	5.96
7	0.32	0.01	0.32	0.50	0.00	1.16	7.71	6.54	5.66	5.96
8	0.36	0.01	0.32	0.47	0.00	1.18	7.71	6.53	5.64	5.96
9	0.54	0.03	0.31	0.44	0.00	1.34	7.86	6.52	5.58	6.03
10	0.45	0.03	0.31	0.44	0.00	1.25	7.84	6.58	5.67	6.02
11	0.44	0.04	0.32	0.46	0.00	1.27	7.82	6.55	5.63	6.01
12	0.41	0.04	0.32	0.46	0.00	1.24	7.82	6.57	5.66	6.01
13	0.30	0.06	0.33	0.48	0.00	1.18	7.78	6.60	5.71	5.99
14	0.34	0.05	0.32	0.47	0.00	1.20	7.79	6.59	5.69	6.00
15	0.31	0.05	0.32	0.43	0.00	1.13	7.79	6.66	5.79	6.00
16	0.30	0.06	0.33	0.52	0.00	1.22	7.77	6.55	5.64	5.99
17	0.31	0.07	0.32	0.49	0.00	1.21	7.78	6.57	5.67	5.99
18	0.29	0.06	0.31	0.45	0.00	1.12	7.78	6.66	5.79	5.99
19	0.29	0.07	0.33	0.54	0.00	1.25	7.77	6.52	5.60	5.99
20	0.30	0.08	0.33	0.51	0.00	1.23	7.77	6.53	5.62	5.99
21	0.28	0.06	0.31	0.45	0.00	1.12	7.78	6.65	5.78	5.99
22	0.30	0.08	0.33	0.58	0.00	1.30	7.77	6.46	5.53	5.99
23	0.29	0.11	0.35	0.55	0.00	1.31	7.76	6.44	5.51	5.98
24	0.28	0.08	0.32	0.49	0.00	1.19	7.77	6.57	5.68	5.99
25	0.29	0.13	0.36	0.59	0.00	1.38	7.75	6.36	5.40	5.98
26	0.27	0.14	0.37	0.58	0.00	1.39	7.74	6.35	5.39	5.97
27	0.26	0.12	0.36	0.55	0.00	1.31	7.75	6.43	5.50	5.98
28	0.26	0.17	0.39	0.59	0.00	1.43	7.73	6.30	5.33	5.97
29	0.23	0.20	0.41	0.58	0.00	1.45	7.85	6.40	5.42	6.03
30	0.16	0.25	0.46	0.52	0.00	1.42	7.82	6.40	5.44	6.01
31	0.17	0.25	0.45	0.53	0.00	1.42	7.83	6.41	5.44	6.02
32	0.10	0.22	0.45	0.55	0.00	1.34	7.81	6.46	5.52	6.01
33	0.10	0.27	0.49	0.43	0.00	1.31	7.80	6.48	5.55	6.00
34	0.11	0.30	0.48	0.46	0.00	1.36	7.80	6.44	5.49	6.00
35	0.10	0.31	0.48	0.44	0.00	1.34	7.80	6.45	5.51	6.00
36	0.07	0.26	0.49	0.64	0.00	1.47	7.79	6.32	5.34	6.00

TABLE 13

DISSOLVED OXYGEN CALCULATED
DEEP WATER DISCHARGE - 1985 - DRY SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)			
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
37	0.08	0.24	0.50	0.41	0.00	1.26	7.80	6.53	5.62	6.00
38	0.10	0.30	0.50	0.44	0.00	1.35	7.80	6.45	5.50	6.00
39	0.04	0.34	0.50	0.32	0.00	1.21	7.78	6.56	5.66	5.99
40	0.05	0.29	0.50	0.67	0.00	1.51	7.78	6.27	5.27	6.00
41	0.08	0.22	0.51	0.45	0.00	1.27	7.80	6.53	5.61	6.00
42	0.08	0.31	0.52	0.42	0.00	1.34	7.79	6.44	5.50	6.00
43	0.02	0.34	0.50	0.25	0.00	1.13	7.77	6.64	5.76	5.99
44	0.02	0.26	0.49	0.56	0.00	1.35	7.78	6.43	5.48	5.99
45	0.06	0.24	0.51	0.37	0.00	1.19	7.79	6.60	5.71	6.00
46	0.05	0.31	0.52	0.32	0.00	1.22	7.78	6.56	5.65	5.99
47	0.01	0.32	0.50	0.19	0.00	1.03	7.77	6.73	5.89	5.99
48	0.01	0.24	0.48	0.35	0.00	1.09	7.77	6.67	5.81	5.99
49	0.05	0.21	0.50	0.36	0.00	1.13	7.78	6.65	5.77	5.99
50	0.04	0.30	0.53	0.30	0.00	1.18	7.78	6.59	5.69	5.99
51	0.01	0.28	0.50	0.16	0.00	0.97	7.77	6.80	5.97	5.99
52	0.01	0.23	0.49	0.22	0.00	0.97	7.77	6.80	5.98	5.99
53	0.04	0.19	0.50	0.35	0.00	1.10	7.78	6.67	5.81	5.99
54	0.04	0.25	0.53	0.32	0.00	1.15	7.75	6.59	5.71	5.98
55	0.01	0.26	0.49	0.14	0.00	0.91	7.77	6.85	6.05	5.99
56	0.00	0.22	0.51	0.15	0.00	0.90	7.76	6.86	6.06	5.99
57	0.04	0.20	0.56	0.31	0.00	1.11	7.47	6.36	5.49	5.85
58	0.04	0.29	0.66	0.38	0.00	1.39	7.37	5.97	5.01	5.80
59	0.00	0.20	0.48	0.11	0.00	0.82	7.77	6.95	6.17	5.99
60	0.00	0.17	0.51	0.09	0.00	0.78	7.75	6.96	6.20	5.98
61	0.02	0.14	0.50	0.24	0.00	0.91	7.48	6.57	5.76	5.85
62	0.01	0.10	0.33	0.14	0.00	0.59	8.18	7.58	6.88	6.18
63	0.00	0.19	0.48	0.11	0.00	0.80	7.78	6.98	6.21	5.99
64	0.00	0.15	0.57	0.05	0.00	0.79	7.72	6.92	6.15	5.96
65	0.01	0.12	0.49	0.19	0.00	0.83	7.51	6.68	5.90	5.87
66	0.01	0.10	0.44	0.15	0.00	0.71	7.86	7.14	6.40	6.03
67	0.00	0.22	0.47	0.09	0.00	0.79	7.75	6.96	6.19	5.98
68	0.00	0.14	0.51	0.04	0.00	0.84	7.70	6.85	6.07	5.96
69	0.01	0.10	0.50	0.15	0.00	0.77	7.82	7.04	6.28	6.01
70	0.01	0.13	0.49	0.13	0.00	0.77	8.00	7.23	6.47	6.10
71	0.00	0.30	0.47	0.03	0.00	0.82	7.96	7.14	6.37	6.08
72	0.00	0.27	0.58	0.02	0.00	0.87	7.94	7.06	6.27	6.07

TABLE 13

DISSOLVED OXYGEN CALCULATED
DEEP WATER DISCHARGE - 1985 - DRY SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)		90TH PERCENTILE	
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	DO	DO STANDARD
73	0.00	0.12	0.51	0.09	0.00	0.74	7.83	7.09	6.34	6.02
74	0.00	0.25	0.45	0.05	0.00	0.77	7.93	7.15	6.39	6.06
75	0.00	0.37	0.44	0.01	0.00	0.84	7.94	7.09	6.31	6.07
76	0.00	0.35	0.45	0.03	0.00	0.84	7.90	7.06	6.28	6.05
77	0.00	0.44	0.41	0.02	0.00	0.88	7.92	7.04	6.25	6.06
78	0.00	0.50	0.34	0.01	0.00	0.86	7.94	7.08	6.29	6.07
79	0.00	0.21	0.40	0.00	0.00	0.62	7.94	7.32	6.60	6.07
80	0.00	0.44	0.44	0.02	0.00	0.91	7.92	7.01	6.20	6.06
81	0.00	0.51	0.34	0.01	0.00	0.87	7.94	7.06	6.27	6.07
82	0.00	0.54	0.25	0.01	0.00	0.81	7.95	7.14	6.36	6.07
83	0.00	0.52	0.24	0.01	0.00	0.78	7.95	7.17	6.40	6.07
84	0.00	0.52	0.20	0.00	0.00	0.73	7.96	7.23	6.48	6.08
85	0.00	0.50	0.16	0.00	0.00	0.68	7.96	7.28	6.55	6.08
86	0.00	0.48	0.16	0.00	0.00	0.65	7.96	7.31	6.58	6.08
87	0.00	0.24	0.02	0.00	0.00	0.26	8.09	7.82	7.23	6.14
88	0.00	0.49	0.12	0.00	0.00	0.61	8.12	7.51	6.80	6.16
89	0.00	0.36	0.10	0.00	0.00	0.46	8.12	7.65	6.99	6.16
90	0.00	0.21	0.02	0.00	0.00	0.23	8.13	7.89	7.30	6.16
91	0.00	0.29	0.06	0.00	0.00	0.35	8.14	7.79	7.16	6.17
92	0.00	0.22	0.05	0.00	0.00	0.28	8.13	7.85	7.24	6.16
93	0.00	0.12	0.02	0.00	0.00	0.14	8.10	7.95	7.39	6.14
94	0.00	0.04	0.00	0.00	0.00	0.05	8.22	8.16	7.64	6.20
95	0.00	0.14	0.02	0.00	0.00	0.17	8.20	8.03	7.47	6.19
96	0.00	0.09	0.01	0.00	0.00	0.10	8.20	8.10	7.56	6.19
97	0.00	0.08	0.01	0.00	0.00	0.09	8.10	8.00	7.46	6.14
98	0.00	0.00	0.20	2.03	0.00	2.24	7.67	5.42	4.19	5.94
99	0.01	0.00	0.09	3.24	0.00	3.35	7.67	4.32	2.73	5.94
100	0.01	0.00	0.24	4.52	0.00	4.79	7.67	2.87	0.83	5.94
101	0.02	0.00	0.29	4.87	0.00	5.19	7.67	2.47	0.30	5.94
102	0.03	0.00	0.39	3.79	0.00	4.21	7.67	3.46	1.60	5.94
103	0.01	0.00	1.04	5.73	0.00	6.79	7.25	0.45	0.00	5.74
104	0.01	0.00	0.98	4.62	0.00	5.62	7.25	1.62	0.00	5.74
105	0.01	0.00	0.75	2.48	0.00	3.25	7.34	4.08	2.53	5.78
106	0.01	0.00	0.70	1.91	0.00	2.63	7.34	4.71	3.35	5.78
107	0.01	0.00	0.64	1.63	0.00	2.29	7.34	5.05	3.80	5.78
108	0.01	0.00	0.54	1.50	0.00	2.06	7.44	5.38	4.21	5.83

TABLE 13

DISSOLVED OXYGEN CALCULATED
DEEP WATER DISCHARGE - 1985 - DRY SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
109	0.02	0.00	0.48	1.45	0.00	1.95	7.44	5.48	4.35	5.83
110	0.02	0.00	0.44	1.42	0.00	1.88	7.44	5.55	4.44	5.83
111	0.04	0.00	0.40	1.43	0.00	1.87	7.55	5.68	4.57	5.88
112	0.04	0.00	0.37	1.45	0.00	1.86	7.55	5.69	4.58	5.88
113	0.05	0.00	0.83	1.50	0.00	2.38	7.69	5.30	4.03	5.95
114	0.04	0.00	0.64	1.20	0.00	1.89	7.69	5.79	4.67	5.95
115	0.05	0.00	0.48	1.04	0.00	1.58	7.69	6.10	5.08	5.95
116	0.06	0.00	0.43	1.01	0.00	1.51	7.69	6.17	5.17	5.95
117	0.06	0.00	0.40	0.97	0.00	1.44	7.69	6.24	5.27	5.95
118	0.03	0.00	0.05	7.87	0.00	7.96	7.70	-0.25	0.00	5.96
119	0.07	0.00	0.24	4.97	0.00	5.30	7.70	2.40	0.19	5.96
120	0.16	0.00	0.38	1.90	0.00	2.45	7.70	5.25	3.95	5.96
121	0.00	0.00	0.99	0.77	0.00	1.76	7.70	5.94	4.86	5.96
122	0.01	0.00	1.61	1.01	0.00	2.65	7.70	5.05	3.69	5.96
123	0.06	0.00	0.93	0.51	0.00	1.50	7.70	6.20	5.21	5.96
124	0.14	0.00	0.51	0.38	0.00	1.05	7.70	6.65	5.79	5.96
125	0.24	0.00	0.42	0.37	0.00	1.05	7.70	6.65	5.80	5.96
126	0.01	0.00	0.02	5.28	0.00	5.35	7.65	2.31	0.10	5.93
127	0.06	0.00	0.26	1.62	0.00	1.96	7.65	5.68	4.54	5.93
128	0.18	0.00	0.40	1.56	0.00	2.15	7.65	5.49	4.29	5.93
129	0.00	0.00	0.00	6.59	0.00	6.61	7.64	1.03	0.00	5.92
130	0.01	0.00	0.01	6.64	0.00	6.67	7.64	0.96	0.00	5.92
131	0.03	0.00	0.05	6.09	0.00	6.17	7.64	1.46	0.00	5.92
132	0.07	0.01	0.32	4.85	0.00	5.25	7.64	2.39	0.19	5.92
133	0.16	0.03	0.59	2.19	0.00	2.98	7.64	4.65	3.18	5.92
134	0.23	0.05	0.50	1.28	0.00	2.07	7.64	5.56	4.38	5.92
135	0.15	0.04	0.34	0.65	0.00	1.20	7.62	6.42	5.52	5.92
136	0.17	0.05	0.37	0.64	0.00	1.25	7.62	6.37	5.46	5.92
137	0.20	0.07	0.38	0.62	0.00	1.28	7.62	6.34	5.42	5.92
138	0.28	0.04	0.38	0.60	0.00	1.30	7.62	6.31	5.38	5.92
139	0.26	0.10	0.37	0.57	0.00	1.31	7.62	6.31	5.37	5.92
140	0.21	0.02	0.40	0.70	0.00	1.34	7.66	6.31	5.36	5.93
141	0.27	0.03	0.37	0.51	0.00	1.19	7.66	6.46	5.57	5.93

TABLE 14

DISSOLVED OXYGEN CALCULATED
DEEP WATER DISCHARGE - 1985 - CANNING SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)			
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
1	[illegible]	0.00	0.54	1.43	0.00	1.93	7.67	5.94	4.74	5.94
2	[illegible]	0.00	0.33	1.14	0.00	1.55	7.68	6.12	5.11	5.95
3	0.10	0.00	0.33	0.86	0.00	1.30	7.69	6.39	5.44	5.95
4	0.14	0.00	0.32	0.72	0.00	1.19	7.69	6.50	5.60	5.95
5	[illegible]	0.00	0.32	0.66	0.00	1.20	7.70	6.49	5.60	5.95
6	[illegible]	0.00	0.32	0.63	0.00	1.26	7.70	6.43	5.52	5.96
7	0.40	0.01	0.32	0.50	0.00	1.25	7.71	6.46	5.54	5.96
8	[illegible]	0.01	0.32	0.47	0.00	1.28	7.71	6.43	5.51	5.96
9	0.69	0.03	0.31	0.44	0.00	1.49	7.86	6.37	5.38	6.03
10	0.57	0.03	0.31	0.44	0.00	1.37	7.84	6.46	5.51	6.02
11	0.55	0.04	0.32	0.46	0.00	1.38	7.82	6.44	5.48	6.01
12	0.51	0.04	0.32	0.46	0.00	1.34	7.82	6.47	5.53	6.01
13	0.36	0.05	0.34	0.49	0.00	1.24	7.79	6.54	5.63	5.99
14	0.41	0.05	0.32	0.47	0.00	1.27	7.79	6.52	5.60	6.00
15	0.39	0.05	0.32	0.43	0.00	1.20	7.79	6.59	5.69	6.00
16	0.34	0.06	0.33	0.52	0.00	1.28	7.77	6.48	5.56	5.99
17	0.38	0.07	0.32	0.49	0.00	1.27	7.78	6.50	5.58	5.99
18	0.35	0.06	0.31	0.45	0.00	1.18	7.78	6.60	5.70	5.99
19	0.35	0.07	0.34	0.54	0.00	1.31	7.77	6.46	5.52	5.99
20	0.36	0.09	0.33	0.51	0.00	1.30	7.77	6.47	5.54	5.99
21	0.35	0.06	0.31	0.45	0.00	1.18	7.78	6.59	5.70	5.99
22	0.36	0.08	0.33	0.58	0.00	1.36	7.77	6.40	5.45	5.99
23	0.35	0.11	0.35	0.55	0.00	1.37	7.76	6.38	5.43	5.98
24	0.34	0.08	0.32	0.49	0.00	1.24	7.77	6.52	5.60	5.99
25	0.34	0.13	0.36	0.59	0.00	1.44	7.75	6.30	5.32	5.98
26	[illegible]	0.14	0.37	0.58	0.00	1.45	7.74	6.29	5.31	5.97
27	0.33	0.12	0.36	0.55	0.00	1.36	7.75	6.38	5.43	5.98
28	0.33	0.17	0.34	0.59	0.00	1.48	7.73	6.25	5.26	5.97
29	0.28	0.20	0.41	0.58	0.00	1.49	7.85	6.35	5.36	6.03
40	0.20	0.25	0.46	0.52	0.00	1.45	7.82	6.37	5.39	6.01
41	0.21	0.26	0.45	0.53	0.00	1.45	7.83	6.37	5.39	6.02
42	0.12	0.27	0.45	0.55	0.00	1.36	7.81	6.44	5.50	6.01
43	0.13	0.27	0.49	0.43	0.00	1.33	7.80	6.46	5.52	6.00
44	0.13	0.31	0.49	0.46	0.00	1.39	7.80	6.42	5.46	6.00
45	0.12	0.31	0.49	0.44	0.00	1.36	7.80	6.43	5.49	6.00
46	[illegible]	0.26	[illegible]	0.64	0.00	1.49	7.79	6.31	5.32	6.00

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TABLE 14

DISSOLVED OXYGEN CALCULATED
DEEP WATER DISCHARGE - 1985 - CANNING SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)			
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
37	0.11	0.24	0.50	0.41	0.00	1.28	7.80	6.52	5.59	6.00
38	0.12	0.30	0.50	0.44	0.00	1.37	7.80	6.43	5.47	6.00
39	0.08	0.34	0.50	0.32	0.00	1.22	7.76	6.55	5.65	5.99
40	0.06	0.28	0.50	0.67	0.00	1.52	7.78	6.26	5.25	6.00
41	0.09	0.22	0.51	0.45	0.00	1.28	7.80	6.51	5.59	6.00
42	0.10	0.31	0.52	0.42	0.00	1.36	7.79	6.43	5.48	6.00
43	0.03	0.34	0.50	0.25	0.00	1.13	7.77	6.63	5.75	5.99
44	0.03	0.26	0.49	0.56	0.00	1.35	7.78	6.42	5.47	5.99
45	0.07	0.24	0.51	0.37	0.00	1.20	7.79	6.59	5.69	6.00
46	0.06	0.31	0.52	0.32	0.00	1.23	7.78	6.54	5.64	5.99
47	0.02	0.32	0.50	0.19	0.00	1.04	7.77	6.75	5.88	5.99
48	0.02	0.24	0.48	0.35	0.00	1.10	7.77	6.67	5.80	5.99
49	0.06	0.21	0.50	0.36	0.00	1.14	7.78	6.64	5.76	5.99
50	0.08	0.30	0.53	0.30	0.00	1.19	7.78	6.58	5.68	5.99
51	0.01	0.29	0.50	0.16	0.00	0.97	7.77	6.79	5.97	5.99
52	0.01	0.23	0.49	0.22	0.00	0.97	7.77	6.80	5.97	5.99
53	0.05	0.19	0.50	0.35	0.00	1.11	7.78	6.67	5.80	5.99
54	0.08	0.25	0.53	0.32	0.00	1.16	7.75	6.58	5.70	5.98
55	0.01	0.26	0.49	0.14	0.00	0.91	7.77	6.85	6.04	5.99
56	0.01	0.22	0.51	0.15	0.00	0.90	7.76	6.86	6.06	5.99
57	0.04	0.20	0.56	0.31	0.00	1.12	7.47	6.35	5.48	5.85
58	0.08	0.29	0.66	0.38	0.00	1.40	7.37	5.96	5.00	5.90
59	0.01	0.20	0.48	0.11	0.00	0.82	7.77	6.95	6.17	5.99
60	0.00	0.17	0.51	0.09	0.00	0.78	7.75	6.96	6.20	5.98
61	0.02	0.14	0.50	0.24	0.00	0.92	7.48	6.56	5.75	5.85
62	0.01	0.10	0.33	0.14	0.00	0.60	8.18	7.58	6.87	6.18
63	0.01	0.19	0.48	0.11	0.00	0.80	7.78	6.97	6.21	5.99
64	0.00	0.15	0.57	0.05	0.00	0.79	7.72	6.92	6.15	5.96
65	0.02	0.12	0.49	0.19	0.00	0.83	7.51	6.68	5.90	5.87
66	0.01	0.10	0.44	0.15	0.00	0.72	7.86	7.14	6.40	6.03
67	0.00	0.22	0.47	0.09	0.00	0.79	7.75	6.96	6.19	5.98
68	0.00	0.19	0.61	0.04	0.00	0.85	7.70	6.85	6.07	5.96
69	0.01	0.10	0.50	0.15	0.00	0.78	7.82	7.03	6.27	6.01
70	0.01	0.15	0.49	0.13	0.00	0.77	8.00	7.23	6.47	6.10
71	0.00	0.30	0.47	0.03	0.00	0.82	7.96	7.14	6.37	6.08
72	0.00	0.27	0.58	0.02	0.00	0.87	7.94	7.06	6.27	6.07

TABLE 14

DISSOLVED OXYGEN CALCULATED
DEEP WATER DISCHARGE - 1985 - CANNING SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)		90TH PERCENTILE	
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	DO	DO STANDARD
73	0.00	0.12	0.51	0.09	0.00	0.74	7.83	7.08	6.33	6.02
74	0.00	0.25	0.45	0.05	0.00	0.77	7.93	7.15	6.39	6.06
75	0.00	0.37	0.44	0.01	0.00	0.84	7.94	7.09	6.31	6.07
76	0.00	0.35	0.45	0.03	0.00	0.84	7.90	7.06	6.28	6.05
77	0.00	0.44	0.41	0.02	0.00	0.88	7.92	7.04	6.25	6.06
78	0.00	0.50	0.34	0.01	0.00	0.86	7.94	7.08	6.29	6.07
79	0.00	0.21	0.40	0.00	0.00	0.62	7.94	7.32	6.60	6.07
80	0.00	0.44	0.44	0.02	0.00	0.91	7.92	7.01	6.20	6.06
81	0.00	0.51	0.34	0.01	0.00	0.87	7.94	7.06	6.27	6.07
82	0.00	0.54	0.25	0.01	0.00	0.81	7.95	7.14	6.36	6.07
83	0.00	0.52	0.24	0.01	0.00	0.78	7.95	7.17	6.40	6.07
84	0.00	0.52	0.20	0.00	0.00	0.73	7.96	7.23	6.48	6.08
85	0.00	0.50	0.16	0.00	0.00	0.68	7.96	7.28	6.55	6.08
86	0.00	0.49	0.16	0.00	0.00	0.65	7.96	7.31	6.58	6.08
87	0.00	0.24	0.02	0.00	0.00	0.26	8.09	7.82	7.23	6.14
88	0.00	0.49	0.12	0.00	0.00	0.61	8.12	7.51	6.80	6.16
89	0.00	0.36	0.10	0.00	0.00	0.46	8.12	7.65	6.99	6.16
90	0.00	0.21	0.02	0.00	0.00	0.23	8.13	7.89	7.30	6.16
91	0.00	0.29	0.06	0.00	0.00	0.35	8.14	7.79	7.16	6.17
92	0.00	0.22	0.05	0.00	0.00	0.28	8.13	7.85	7.24	6.16
93	0.00	0.12	0.02	0.00	0.00	0.14	8.10	7.95	7.39	6.14
94	0.00	0.04	0.00	0.00	0.00	0.05	8.22	8.16	7.64	6.20
95	0.00	0.14	0.02	0.00	0.00	0.17	8.20	8.03	7.47	6.19
96	0.00	0.09	0.01	0.00	0.00	0.10	8.20	8.10	7.56	6.19
97	0.00	0.08	0.01	0.00	0.00	0.09	8.10	8.00	7.46	6.14
98	0.00	0.00	0.20	2.03	0.00	2.24	7.67	5.42	4.19	5.94
99	0.01	0.00	0.09	3.24	0.00	3.35	7.67	4.32	2.73	5.94
100	0.02	0.00	0.24	4.52	0.00	4.80	7.67	2.87	0.82	5.94
101	0.02	0.00	0.29	4.87	0.00	5.20	7.67	2.47	0.29	5.94
102	0.03	0.00	0.39	3.79	0.00	4.22	7.67	3.45	1.58	5.94
103	0.01	0.00	1.04	5.73	0.00	6.79	7.25	0.45	0.00	5.74
104	0.01	0.00	0.98	4.62	0.00	5.62	7.25	1.62	0.00	5.74
105	0.01	0.00	0.75	2.48	0.00	3.26	7.34	4.08	2.52	5.78
106	0.01	0.00	0.70	1.91	0.00	2.63	7.34	4.70	3.35	5.78
107	0.02	0.00	0.64	1.63	0.00	2.29	7.34	5.04	3.79	5.78
108	0.02	0.00	0.54	1.50	0.00	2.06	7.44	5.37	4.20	5.83

TABLE 14

DISSOLVED OXYGEN CALCULATED
DEEP WATER DISCHARGE - 1985 - CANNING SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)			
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
109	0.02	0.00	0.48	1.45	0.00	1.96	7.44	5.48	4.34	5.83
110	0.03	0.00	0.44	1.42	0.00	1.89	7.44	5.54	4.43	5.83
111	0.04	0.00	0.40	1.43	0.00	1.88	7.55	5.67	4.55	5.88
112	0.04	0.00	0.37	1.45	0.00	1.87	7.55	5.68	4.56	5.88
113	0.05	0.00	0.83	1.50	0.00	2.39	7.69	5.29	4.01	5.95
114	0.05	0.00	0.64	1.20	0.00	1.91	7.69	5.77	4.65	5.95
115	0.06	0.00	0.49	1.04	0.00	1.59	7.69	6.09	5.06	5.95
116	0.07	0.00	0.43	1.01	0.00	1.52	7.69	6.16	5.15	5.95
117	0.09	0.00	0.40	0.97	0.00	1.46	7.69	6.22	5.24	5.95
118	0.06	0.00	0.05	7.87	0.00	7.97	7.70	-0.26	0.00	5.96
119	0.09	0.00	0.24	4.97	0.00	5.32	7.70	2.38	0.16	5.96
120	0.20	0.00	0.38	1.90	0.00	2.49	7.70	5.21	3.90	5.96
121	0.00	0.00	0.99	0.77	0.00	1.77	7.70	5.93	4.86	5.96
122	0.02	0.00	1.61	1.01	0.00	2.65	7.70	5.05	3.69	5.96
123	0.06	0.00	0.93	0.51	0.00	1.51	7.70	6.19	5.19	5.96
124	0.19	0.00	0.51	0.38	0.00	1.09	7.70	6.61	5.74	5.96
125	0.31	0.00	0.42	0.37	0.00	1.12	7.70	6.58	5.71	5.96
126	0.02	0.00	0.02	5.28	0.00	5.33	7.65	2.31	0.09	5.93
127	0.09	0.00	0.26	1.62	0.00	1.98	7.65	5.66	4.52	5.93
128	0.19	0.02	0.40	1.56	0.00	2.18	7.65	5.46	4.25	5.93
129	0.01	0.00	0.00	6.59	0.00	6.61	7.64	1.03	0.00	5.92
130	0.02	0.00	0.01	6.64	0.00	6.67	7.64	0.96	0.00	5.92
131	0.03	0.00	0.05	6.08	0.00	6.17	7.54	1.46	0.00	5.92
132	0.00	0.01	0.32	4.93	0.00	5.26	7.64	2.37	0.17	5.92
133	0.19	0.03	0.59	2.19	0.00	3.01	7.64	4.62	3.14	5.92
134	0.27	0.05	0.50	1.28	0.00	2.12	7.64	5.51	4.32	5.92
135	0.19	0.04	0.34	0.65	0.00	1.23	7.62	6.39	5.48	5.92
136	0.20	0.05	0.37	0.64	0.00	1.28	7.62	6.34	5.41	5.92
137	0.24	0.07	0.39	0.62	0.00	1.32	7.62	6.30	5.37	5.92
138	0.27	0.09	0.38	0.60	0.00	1.35	7.62	6.27	5.32	5.92
139	0.30	0.10	0.37	0.57	0.00	1.36	7.62	6.26	5.31	5.92
140	0.25	0.02	0.40	0.70	0.00	1.39	7.66	6.26	5.30	5.93
141	0.33	0.03	0.37	0.51	0.00	1.25	7.66	6.41	5.49	5.93

TABLE 15

DISSOLVED OXYGEN CALCULATED
DEEP WATER DISCHARGE - 1995 - DRY SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)			
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
1	0.04	0.00	0.34	1.43	0.00	1.83	7.67	5.84	4.74	5.94
2	0.07	0.00	0.33	1.14	0.00	1.55	7.68	6.13	5.12	5.95
3	0.09	0.00	0.33	0.86	0.00	1.30	7.69	6.38	5.45	5.95
4	0.13	0.00	0.32	0.72	0.00	1.18	7.69	6.50	5.61	5.95
5	0.20	0.00	0.32	0.66	0.00	1.19	7.70	6.51	5.61	5.95
6	0.28	0.00	0.32	0.63	0.00	1.25	7.70	6.45	5.54	5.96
7	0.38	0.01	0.32	0.50	0.00	1.23	7.71	6.48	5.57	5.96
8	0.43	0.01	0.32	0.47	0.00	1.25	7.71	6.46	5.54	5.96
9	0.65	0.03	0.31	0.44	0.00	1.45	7.86	6.41	5.44	6.03
10	0.54	0.03	0.31	0.44	0.00	1.34	7.84	6.50	5.55	6.02
11	0.52	0.04	0.32	0.46	0.00	1.35	7.82	6.47	5.52	6.01
12	0.49	0.04	0.32	0.46	0.00	1.31	7.82	6.50	5.56	6.01
13	0.34	0.06	0.33	0.48	0.00	1.23	7.78	6.55	5.65	5.99
14	0.39	0.05	0.32	0.47	0.00	1.25	7.79	6.53	5.62	6.00
15	0.37	0.05	0.32	0.43	0.00	1.18	7.79	6.61	5.72	6.00
16	0.34	0.06	0.33	0.52	0.00	1.27	7.77	6.50	5.58	5.99
17	0.36	0.07	0.32	0.49	0.00	1.26	7.78	6.52	5.60	5.99
18	0.33	0.06	0.31	0.45	0.00	1.16	7.78	6.61	5.72	5.99
19	0.34	0.07	0.33	0.54	0.00	1.30	7.77	6.47	5.54	5.99
20	0.35	0.08	0.33	0.51	0.00	1.28	7.77	6.49	5.56	5.99
21	0.33	0.06	0.31	0.45	0.00	1.16	7.78	6.61	5.72	5.99
22	0.34	0.08	0.33	0.58	0.00	1.35	7.77	6.41	5.47	5.99
23	0.33	0.11	0.35	0.55	0.00	1.36	7.76	6.39	5.45	5.98
24	0.32	0.08	0.32	0.49	0.00	1.23	7.77	6.53	5.62	5.99
25	0.32	0.13	0.36	0.59	0.00	1.43	7.75	6.31	5.34	5.98
26	0.32	0.14	0.37	0.58	0.00	1.43	7.74	6.30	5.33	5.97
27	0.31	0.12	0.36	0.55	0.00	1.35	7.75	6.39	5.45	5.98
28	0.30	0.17	0.39	0.59	0.00	1.47	7.73	6.26	5.28	5.97
29	0.27	0.20	0.41	0.58	0.00	1.48	7.85	6.37	5.38	6.03
30	0.19	0.25	0.46	0.52	0.00	1.44	7.82	6.38	5.40	6.01
31	0.20	0.25	0.45	0.53	0.00	1.44	7.83	6.38	5.40	6.02
32	0.11	0.22	0.45	0.55	0.00	1.35	7.81	6.45	5.50	6.01
33	0.12	0.27	0.49	0.43	0.00	1.33	7.80	6.47	5.53	6.00
34	0.13	0.30	0.48	0.46	0.00	1.38	7.80	6.42	5.47	6.00
35	0.11	0.31	0.48	0.44	0.00	1.36	7.80	6.44	5.49	6.00
36	0.09	0.26	0.49	0.64	0.00	1.48	7.79	6.31	5.32	6.00

TABLE 15

DISSOLVED OXYGEN CALCULATED
DEEP WATER DISCHARGE - 1995 - DRY SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
37	0.11	0.24	0.50	0.41	0.00	1.27	7.80	6.52	5.60	6.00
38	0.11	0.30	0.50	0.44	0.00	1.36	7.80	6.43	5.48	6.00
39	0.04	0.34	0.50	0.32	0.00	1.22	7.78	6.55	5.65	5.99
40	0.05	0.29	0.50	0.67	0.00	1.52	7.78	6.26	5.26	6.00
41	0.09	0.22	0.51	0.45	0.00	1.28	7.80	6.51	5.59	6.00
42	0.10	0.31	0.52	0.42	0.00	1.36	7.79	6.43	5.48	6.00
43	0.02	0.34	0.50	0.25	0.00	1.13	7.77	6.63	5.76	5.99
44	0.03	0.26	0.49	0.56	0.00	1.35	7.78	6.42	5.48	5.99
45	0.06	0.24	0.51	0.37	0.00	1.19	7.79	6.59	5.70	6.00
46	0.06	0.31	0.52	0.32	0.00	1.23	7.78	6.55	5.64	5.99
47	0.01	0.32	0.50	0.19	0.00	1.04	7.77	6.73	5.88	5.99
48	0.02	0.24	0.48	0.35	0.00	1.10	7.77	6.67	5.81	5.99
49	0.06	0.21	0.50	0.36	0.00	1.14	7.78	6.64	5.76	5.99
50	0.05	0.30	0.53	0.30	0.00	1.19	7.78	6.58	5.68	5.99
51	0.01	0.28	0.50	0.16	0.00	0.97	7.77	6.79	5.97	5.99
52	0.01	0.23	0.49	0.22	0.00	0.97	7.77	6.80	5.97	5.99
53	0.05	0.19	0.50	0.35	0.00	1.10	7.78	6.67	5.80	5.99
54	0.04	0.25	0.53	0.32	0.00	1.16	7.75	6.58	5.70	5.98
55	0.01	0.26	0.49	0.14	0.00	0.91	7.77	6.85	6.04	5.99
56	0.01	0.22	0.51	0.15	0.00	0.90	7.76	6.86	6.06	5.99
57	0.03	0.20	0.56	0.31	0.00	1.12	7.47	6.35	5.48	5.95
58	0.05	0.29	0.66	0.38	0.00	1.40	7.37	5.96	5.00	5.80
59	0.01	0.20	0.48	0.11	0.00	0.82	7.77	6.95	6.17	5.99
60	0.00	0.17	0.51	0.09	0.00	0.78	7.75	6.96	6.20	5.98
61	0.02	0.14	0.50	0.24	0.00	0.92	7.48	6.56	5.76	5.85
62	0.01	0.10	0.33	0.14	0.00	0.60	8.18	7.58	6.87	6.18
63	0.01	0.19	0.48	0.11	0.00	0.80	7.78	6.98	6.21	5.99
64	0.00	0.15	0.57	0.05	0.00	0.79	7.72	6.92	6.15	5.96
65	0.01	0.12	0.49	0.19	0.00	0.83	7.51	6.68	5.90	5.87
66	0.01	0.10	0.44	0.15	0.00	0.71	7.86	7.14	6.40	6.03
67	0.00	0.22	0.47	0.09	0.00	0.79	7.75	6.96	6.19	5.98
68	0.00	0.18	0.61	0.04	0.00	0.85	7.70	6.85	6.07	5.96
69	0.01	0.10	0.50	0.15	0.00	0.79	7.82	7.04	6.27	6.01
70	0.01	0.13	0.49	0.13	0.00	0.77	8.00	7.23	6.47	6.10
71	0.00	0.30	0.47	0.03	0.00	0.82	7.96	7.14	6.37	6.08
72	0.00	0.27	0.58	0.02	0.00	0.87	7.94	7.06	6.27	6.07

TABLE 15

DISSOLVED OXYGEN CALCULATED
DEEP WATER DISCHARGE - 1995 - DRY SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)			
									90TH PERCENTILE	
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	DO	DO STANDARD
73	0.00	0.12	0.51	0.09	0.00	0.74	7.83	7.08	6.33	6.02
74	0.00	0.28	0.45	0.05	0.00	0.77	7.93	7.15	6.39	6.06
75	0.00	0.37	0.44	0.01	0.00	0.84	7.94	7.09	6.31	6.07
76	0.00	0.38	0.45	0.03	0.00	0.84	7.90	7.06	6.28	6.05
77	0.00	0.44	0.41	0.02	0.00	0.88	7.92	7.04	6.25	6.06
78	0.00	0.50	0.34	0.01	0.00	0.86	7.94	7.08	6.29	6.07
79	0.00	0.21	0.40	0.00	0.00	0.62	7.94	7.32	6.60	6.07
80	0.00	0.44	0.44	0.02	0.00	0.91	7.92	7.01	6.20	6.06
81	0.00	0.51	0.34	0.01	0.00	0.37	7.94	7.06	6.27	6.07
82	0.00	0.54	0.25	0.01	0.00	0.81	7.95	7.14	6.36	6.07
83	0.00	0.52	0.24	0.01	0.00	0.78	7.95	7.17	6.40	6.07
84	0.00	0.52	0.20	0.00	0.00	0.73	7.96	7.23	6.48	6.08
85	0.00	0.50	0.16	0.00	0.00	0.68	7.96	7.28	6.55	6.08
86	0.00	0.48	0.16	0.00	0.00	0.65	7.96	7.31	6.58	6.08
87	0.00	0.24	0.02	0.00	0.00	0.26	8.09	7.82	7.23	6.14
88	0.00	0.49	0.12	0.00	0.00	0.61	8.12	7.51	6.80	6.16
89	0.00	0.36	0.10	0.00	0.00	0.46	8.12	7.65	6.99	6.16
90	0.00	0.21	0.02	0.00	0.00	0.23	8.13	7.89	7.30	6.16
91	0.00	0.29	0.06	0.00	0.00	0.35	8.14	7.79	7.16	6.17
92	0.00	0.22	0.05	0.00	0.00	0.28	8.13	7.85	7.24	6.16
93	0.00	0.12	0.02	0.00	0.00	0.14	8.10	7.95	7.39	6.14
94	0.00	0.04	0.00	0.00	0.00	0.05	8.22	8.16	7.64	6.20
95	0.00	0.14	0.02	0.00	0.00	0.17	8.20	8.03	7.47	6.19
96	0.00	0.08	0.01	0.00	0.00	0.10	8.20	8.10	7.56	6.19
97	0.00	0.08	0.01	0.00	0.00	0.09	8.10	8.00	7.46	6.14
98	0.00	0.00	0.20	2.03	0.00	2.24	7.67	5.42	4.19	5.94
99	0.01	0.00	0.09	3.24	0.00	3.35	7.67	4.32	2.73	5.94
100	0.00	0.00	0.24	4.52	0.00	4.79	7.67	2.87	0.82	5.94
101	0.00	0.00	0.29	4.87	0.00	5.20	7.67	2.47	0.29	5.94
102	0.08	0.00	0.39	3.79	0.00	4.21	7.67	3.45	1.59	5.94
103	0.01	0.00	1.04	5.73	0.00	6.79	7.25	0.45	0.00	5.74
104	0.01	0.00	0.98	4.62	0.00	5.62	7.25	1.62	0.00	5.74
105	0.01	0.00	0.75	2.48	0.00	3.25	7.34	4.08	2.52	5.78
106	0.01	0.00	0.70	1.91	0.00	2.63	7.34	4.70	3.35	5.78
107	0.01	0.00	0.64	1.63	0.00	2.29	7.34	5.04	3.80	5.78
108	0.00	0.00	0.54	1.50	0.00	2.06	7.44	5.37	4.20	5.83

TABLE 15

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DISSOLVED OXYGEN CALCULATED
DEEP WATER DISCHARGE - 1995 - DRY SEASON

SEGMENT	DD DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
109	0.02	0.00	0.48	1.45	0.00	1.95	7.44	5.48	4.34	5.83
110	0.03	0.00	0.44	1.42	0.00	1.89	7.44	5.55	4.43	5.83
111	0.03	0.00	0.40	1.43	0.00	1.87	7.55	5.67	4.56	5.88
112	0.04	0.00	0.37	1.45	0.00	1.87	7.55	5.68	4.57	5.88
113	0.04	0.00	0.83	1.50	0.00	2.39	7.69	5.29	4.02	5.95
114	0.05	0.00	0.64	1.20	0.00	1.90	7.69	5.78	4.65	5.95
115	0.06	0.00	0.48	1.04	0.00	1.59	7.69	6.09	5.07	5.95
116	0.06	0.00	0.43	1.01	0.00	1.52	7.69	6.16	5.16	5.95
117	0.08	0.00	0.40	0.97	0.00	1.45	7.69	6.23	5.25	5.95
118	0.04	0.00	0.05	7.87	0.00	7.97	7.70	-0.26	0.00	5.96
119	0.09	0.00	0.24	4.97	0.00	5.31	7.70	2.38	0.17	5.96
120	0.19	0.00	0.38	1.90	0.00	2.48	7.70	5.22	3.91	5.96
121	0.00	0.00	0.99	0.77	0.00	1.76	7.70	5.94	4.86	5.96
122	0.02	0.00	1.61	1.01	0.00	2.65	7.70	5.05	3.69	5.96
123	0.06	0.00	0.93	0.51	0.00	1.51	7.70	6.19	5.20	5.96
124	0.17	0.00	0.51	0.38	0.00	1.08	7.70	6.62	5.76	5.96
125	0.29	0.00	0.42	0.37	0.00	1.10	7.70	6.60	5.74	5.96
126	0.02	0.00	0.02	5.28	0.00	5.33	7.65	2.31	0.09	5.93
127	0.07	0.00	0.26	1.62	0.00	1.97	7.65	5.67	4.52	5.93
128	0.18	0.02	0.40	1.56	0.00	2.18	7.65	5.46	4.25	5.93
129	0.01	0.00	0.00	6.59	0.00	6.61	7.64	1.03	0.00	5.92
130	0.01	0.00	0.01	6.64	0.00	6.67	7.64	0.96	0.00	5.92
131	0.03	0.00	0.05	6.08	0.00	6.17	7.64	1.46	0.00	5.92
132	0.09	0.01	0.32	4.83	0.00	5.26	7.64	2.38	0.18	5.92
133	0.18	0.03	0.59	2.19	0.00	3.01	7.64	4.63	3.15	5.92
134	0.26	0.05	0.50	1.28	0.00	2.11	7.64	5.52	4.33	5.92
135	0.17	0.04	0.34	0.65	0.00	1.22	7.62	6.39	5.49	5.92
136	0.19	0.05	0.37	0.64	0.00	1.27	7.62	6.34	5.42	5.92
137	0.23	0.07	0.38	0.62	0.00	1.31	7.62	6.31	5.38	5.92
138	0.26	0.09	0.38	0.60	0.00	1.34	7.62	6.28	5.34	5.92
139	0.29	0.10	0.37	0.57	0.00	1.35	7.62	6.27	5.32	5.92
140	0.24	0.02	0.40	0.70	0.00	1.38	7.66	6.27	5.32	5.93
141	0.31	0.03	0.37	0.51	0.00	1.23	7.66	6.42	5.51	5.93

TABLE 16

DISSOLVED OXYGEN CALCULATED
DEEP WATER DISCHARGE - 1995 - CANNING SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)			
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
1	0.06	0.00	0.34	1.43	0.00	1.84	7.67	5.83	4.73	5.94
2	0.09	0.00	0.33	1.14	0.00	1.56	7.68	6.11	5.10	5.95
3	0.11	0.00	0.33	0.86	0.00	1.32	7.69	6.36	5.43	5.95
4	0.16	0.00	0.32	0.72	0.00	1.21	7.69	6.48	5.58	5.95
5	0.24	0.00	0.32	0.66	0.00	1.23	7.70	6.46	5.56	5.95
6	0.36	0.00	0.32	0.63	0.00	1.31	7.70	6.39	5.46	5.96
7	0.46	0.01	0.32	0.50	0.00	1.30	7.71	6.40	5.47	5.96
8	0.54	0.01	0.32	0.47	0.00	1.34	7.71	6.37	5.42	5.96
9	0.79	0.03	0.31	0.44	0.00	1.58	7.86	6.28	5.26	6.03
10	0.68	0.03	0.31	0.44	0.00	1.45	7.84	6.39	5.41	6.02
11	0.62	0.04	0.32	0.46	0.00	1.45	7.82	6.37	5.39	6.01
12	0.58	0.04	0.32	0.46	0.00	1.41	7.82	6.40	5.44	6.01
13	0.40	0.06	0.33	0.48	0.00	1.28	7.78	6.50	5.57	5.99
14	0.46	0.05	0.32	0.47	0.00	1.31	7.79	6.47	5.53	6.00
15	0.43	0.05	0.32	0.43	0.00	1.24	7.79	6.54	5.63	6.00
16	0.40	0.06	0.33	0.52	0.00	1.32	7.77	6.44	5.51	5.99
17	0.42	0.07	0.32	0.49	0.00	1.32	7.78	6.46	5.52	5.99
18	0.39	0.06	0.31	0.45	0.00	1.22	7.78	6.55	5.65	5.99
19	0.40	0.07	0.33	0.54	0.00	1.35	7.77	6.42	5.47	5.99
20	0.40	0.08	0.33	0.51	0.00	1.34	7.77	6.43	5.49	5.99
21	0.39	0.06	0.31	0.45	0.00	1.22	7.78	6.55	5.65	5.99
22	0.40	0.09	0.33	0.58	0.00	1.40	7.77	6.36	5.40	5.99
23	0.39	0.11	0.35	0.55	0.00	1.41	7.76	6.34	5.38	5.98
24	0.37	0.09	0.32	0.49	0.00	1.28	7.77	6.48	5.55	5.99
25	0.39	0.13	0.36	0.59	0.00	1.48	7.75	6.26	5.27	5.98
26	0.37	0.14	0.37	0.58	0.00	1.48	7.74	6.25	5.27	5.97
27	0.36	0.12	0.36	0.55	0.00	1.40	7.75	6.34	5.38	5.98
28	0.35	0.17	0.39	0.59	0.00	1.52	7.73	6.21	5.21	5.97
29	0.31	0.20	0.41	0.58	0.00	1.53	7.85	6.32	5.32	6.03
30	0.22	0.25	0.46	0.52	0.00	1.47	7.82	6.35	5.36	6.01
31	0.23	0.25	0.45	0.53	0.00	1.48	7.83	6.35	5.36	6.02
32	0.15	0.22	0.45	0.55	0.00	1.37	7.81	6.43	5.48	6.01
33	0.14	0.27	0.49	0.43	0.00	1.35	7.80	6.45	5.50	6.00
34	0.15	0.30	0.48	0.46	0.00	1.40	7.80	6.40	5.44	6.00
35	0.13	0.31	0.49	0.44	0.00	1.37	7.80	6.42	5.47	6.00
36	0.09	0.26	0.49	0.64	0.00	1.49	7.79	6.30	5.31	6.00

TABLE 16

DISSOLVED OXYGEN CALCULATED
DEEP WATER DISCHARGE - 1995 - CANNING SEASON

	DO DEFICIT COMPONENTS (MG/L)						DO (MG/L)			
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
37	0.12	0.24	0.50	0.41	0.00	1.29	7.80	6.50	5.58	6.00
38	0.13	0.30	0.50	0.44	0.00	1.38	7.80	6.41	5.46	6.00
39	0.05	0.34	0.50	0.32	0.00	1.23	7.78	6.54	5.64	5.99
40	0.06	0.29	0.50	0.67	0.00	1.53	7.78	6.25	5.25	6.00
41	0.11	0.22	0.51	0.45	0.00	1.29	7.80	6.50	5.57	6.00
42	0.12	0.31	0.52	0.42	0.00	1.37	7.79	6.41	5.46	6.00
43	0.08	0.34	0.50	0.25	0.00	1.14	7.77	6.63	5.75	5.99
44	0.07	0.26	0.49	0.56	0.00	1.36	7.78	6.42	5.47	5.99
45	0.08	0.24	0.51	0.37	0.00	1.21	7.79	6.58	5.68	6.00
46	0.07	0.31	0.52	0.32	0.00	1.24	7.78	6.54	5.63	5.99
47	0.02	0.32	0.50	0.19	0.00	1.04	7.77	6.72	5.88	5.99
48	0.02	0.24	0.48	0.35	0.00	1.10	7.77	6.67	5.80	5.99
49	0.07	0.21	0.50	0.36	0.00	1.15	7.78	6.63	5.75	5.99
50	0.06	0.33	0.53	0.30	0.00	1.20	7.78	6.57	5.67	5.99
51	0.01	0.29	0.50	0.16	0.00	0.97	7.77	6.79	5.97	5.99
52	0.01	0.23	0.49	0.22	0.00	0.97	7.77	6.79	5.97	5.99
53	0.05	0.19	0.50	0.35	0.00	1.11	7.78	6.66	5.79	5.99
54	0.06	0.25	0.53	0.32	0.00	1.17	7.75	6.58	5.69	5.98
55	0.01	0.26	0.49	0.14	0.00	0.92	7.77	6.85	6.04	5.99
56	[illegible]	0.22	0.51	0.15	0.00	0.90	7.76	6.86	6.06	5.99
57	0.04	0.20	0.56	0.31	0.00	1.12	7.47	6.35	5.47	5.85
58	0.06	0.29	0.66	0.38	0.00	1.41	7.37	5.95	4.99	5.80
59	0.01	0.20	0.48	0.11	0.00	0.82	7.77	6.95	6.17	5.99
60	0.00	0.17	0.51	0.09	0.00	0.78	7.75	6.96	6.19	5.98
61	0.03	0.14	0.50	0.24	0.00	0.92	7.48	6.56	5.75	5.85
62	0.02	0.10	0.33	0.14	0.00	0.60	8.18	7.57	6.87	6.18
63	0.01	0.19	0.48	0.11	0.00	0.80	7.78	6.97	6.20	5.99
64	0.00	0.15	0.57	0.05	0.00	0.79	7.72	6.92	6.15	5.96
65	0.02	0.12	0.49	0.19	0.00	0.83	7.51	6.68	5.90	5.97
66	0.01	0.10	0.44	0.15	0.00	0.72	7.86	7.14	6.39	6.03
67	0.00	0.22	0.47	0.09	0.00	0.79	7.75	6.95	6.19	5.98
68	0.00	0.19	0.61	0.04	0.00	0.85	7.70	6.85	6.07	5.96
69	0.01	0.12	0.50	0.15	0.00	0.78	7.82	7.03	6.27	6.01
70	0.01	0.13	0.49	0.13	0.00	0.77	8.00	7.22	6.46	6.10
71	0.00	0.30	0.47	0.03	0.00	0.82	7.96	7.14	6.36	6.08
72	[illegible]	0.27	0.58	0.02	0.00	0.87	7.94	7.06	6.27	6.07

TABLE 16

DISSOLVED OXYGEN CALCULATED
DEEP WATER DISCHARGE - 1995 - CANNING SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
73	0.00	0.12	0.51	0.09	0.00	0.74	7.83	7.08	6.33	6.02
74	0.00	0.25	0.45	0.05	0.00	0.77	7.93	7.15	6.39	6.06
75	0.00	0.37	0.44	0.01	0.00	0.84	7.94	7.09	6.31	6.07
76	0.00	0.35	0.45	0.03	0.00	0.84	7.90	7.06	6.27	6.05
77	0.00	0.44	0.41	0.02	0.00	0.88	7.92	7.04	6.25	6.06
78	0.00	0.53	0.34	0.01	0.00	0.86	7.94	7.08	6.29	6.07
79	0.00	0.21	0.40	0.00	0.00	0.62	7.94	7.32	6.60	6.07
80	0.00	0.44	0.44	0.02	0.00	0.91	7.92	7.01	6.20	6.06
81	0.00	0.51	0.34	0.01	0.00	0.87	7.99	7.06	6.27	6.07
82	0.00	0.54	0.25	0.01	0.00	0.81	7.95	7.14	6.36	6.07
83	0.00	0.52	0.24	0.01	0.00	0.78	7.95	7.17	6.40	6.07
84	0.00	0.52	0.20	0.00	0.00	0.73	7.96	7.23	6.48	6.08
85	0.00	0.50	0.16	0.00	0.00	0.68	7.96	7.28	6.55	6.08
86	0.00	0.48	0.16	0.00	0.00	0.65	7.96	7.31	6.58	6.08
87	0.00	0.24	0.02	0.00	0.00	0.26	8.09	7.82	7.23	6.14
88	0.00	0.49	0.12	0.00	0.00	0.61	8.12	7.51	6.80	6.16
89	0.00	0.36	0.10	0.00	0.00	0.46	8.12	7.65	6.99	6.16
90	0.00	0.21	0.02	0.00	0.00	0.23	8.15	7.89	7.30	6.16
91	0.00	0.29	0.06	0.00	0.00	0.35	8.14	7.79	7.16	6.17
92	0.00	0.22	0.05	0.00	0.00	0.28	8.13	7.85	7.24	6.16
93	0.00	0.12	0.02	0.00	0.00	0.14	8.10	7.95	7.39	6.14
94	0.00	0.04	0.00	0.00	0.00	0.05	8.22	8.16	7.64	6.20
95	0.00	0.14	0.02	0.00	0.00	0.17	8.20	8.03	7.47	6.19
96	0.00	0.09	0.01	0.00	0.00	0.10	8.20	8.10	7.56	6.19
97	0.00	0.08	0.01	0.00	0.00	0.09	8.10	8.00	7.46	6.14
98	0.00	0.00	0.20	2.03	0.00	2.24	7.67	5.42	4.19	5.94
99	0.01	0.00	0.09	3.24	0.00	3.35	7.67	4.31	2.73	5.94
100	0.03	0.00	0.24	4.52	0.00	4.80	7.67	2.87	0.82	5.94
101	0.03	0.00	0.29	4.87	0.00	5.20	7.67	2.46	0.28	5.94
102	0.04	0.00	0.39	3.79	0.00	4.22	7.67	3.44	1.58	5.94
103	0.03	0.00	1.04	5.73	0.00	6.80	7.25	0.44	0.00	5.74
104	0.03	0.00	0.98	4.62	0.00	5.63	7.25	1.62	0.00	5.74
105	0.03	0.00	0.75	2.48	0.00	3.26	7.34	4.08	2.52	5.78
106	0.03	0.00	0.70	1.91	0.00	2.64	7.34	4.70	3.34	5.78
107	0.03	0.00	0.64	1.63	0.00	2.30	7.34	5.04	3.79	5.78
108	0.03	0.00	0.54	1.50	0.00	2.07	7.44	5.37	4.20	5.93

TABLE 16

DISSOLVED OXYGEN CALCULATED
DEEP WATER DISCHARGE - 1995 - CANNING SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	DO (MG/L) SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
109	0.03	0.00	0.48	1.45	0.00	1.96	7.44	5.48	4.33	5.83
110	0.03	0.00	0.44	1.42	0.00	1.90	7.44	5.54	4.42	5.83
111	0.04	0.00	0.40	1.43	0.00	1.88	7.55	5.66	4.55	5.88
112	0.05	0.00	0.37	1.45	0.00	1.88	7.55	5.67	4.56	5.88
113	0.06	0.00	0.83	1.50	0.00	2.40	7.69	5.28	4.00	5.95
114	0.06	0.00	0.64	1.20	0.00	1.91	7.69	5.77	4.64	5.95
115	0.07	0.00	0.48	1.04	0.00	1.60	7.69	6.08	5.05	5.95
116	0.08	0.00	0.43	1.01	0.00	1.53	7.69	6.15	5.14	5.95
117	0.09	0.00	0.40	0.97	0.00	1.47	7.69	6.21	5.23	5.95
118	0.05	0.00	0.05	7.87	0.00	7.98	7.70	-0.27	0.00	5.96
119	0.10	0.00	0.24	4.97	0.00	5.33	7.70	2.37	0.15	5.96
120	0.23	0.00	0.38	1.90	0.00	2.52	7.70	5.18	3.86	5.96
121	0.00	0.00	0.99	0.77	0.00	1.77	7.70	5.93	4.85	5.96
122	0.02	0.00	1.61	1.01	0.00	2.66	7.70	5.04	3.68	5.96
123	0.07	0.00	0.93	0.51	0.00	1.52	7.70	6.18	5.18	5.96
124	0.21	0.00	0.51	0.38	0.00	1.12	7.70	6.58	5.71	5.96
125	0.35	0.00	0.42	0.37	0.00	1.16	7.70	6.54	5.66	5.96
126	0.02	0.00	0.02	5.28	0.00	5.33	7.65	2.31	0.09	5.93
127	0.10	0.00	0.26	1.62	0.00	1.99	7.65	5.66	4.51	5.93
128	0.20	0.02	0.40	1.56	0.00	2.20	7.65	5.44	4.22	5.93
129	0.01	0.00	0.00	6.59	0.00	6.61	7.64	1.02	0.00	5.92
130	0.02	0.00	0.01	6.64	0.00	6.68	7.64	0.96	0.00	5.92
131	0.04	0.00	0.05	6.08	0.00	6.18	7.64	1.45	0.00	5.92
132	0.00	0.01	0.32	4.93	0.00	5.27	7.64	2.36	0.16	5.92
133	0.21	0.03	0.59	2.19	0.00	3.05	7.64	4.60	3.11	5.92
134	0.30	0.05	0.50	1.28	0.00	2.15	7.64	5.48	4.28	5.92
135	0.20	0.04	0.34	0.65	0.00	1.25	7.62	6.37	5.45	5.92
136	0.22	0.05	0.37	0.64	0.00	1.30	7.62	6.31	5.38	5.92
137	0.26	0.07	0.38	0.62	0.00	1.34	7.62	6.27	5.33	5.92
138	0.31	0.09	0.38	0.60	0.00	1.38	7.62	6.24	5.28	5.92
139	0.34	0.10	0.37	0.57	0.00	1.40	7.62	6.22	5.26	5.92
140	0.29	0.02	0.40	0.70	0.00	1.42	7.66	6.23	5.26	5.93
141	0.36	0.03	0.37	0.51	0.00	1.28	7.66	6.37	5.44	5.93

TABLE 17

DISSOLVED OXYGEN CALCULATED
DEEP WATER DISCHARGE - 1985 - WET SEASON
DO DEFICIT COMPONENTS (MG/L)

SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO (MG/L)		
								DO	90TH PERCENTILE DO	DO STANDARD
1	0.05	0.00	0.41	0.92	0.20	1.59	9.41	7.82	6.79	6.77
2	0.07	0.00	0.39	0.76	0.14	1.38	9.35	7.97	7.01	6.74
3	0.10	0.00	0.40	0.59	0.09	1.18	9.30	8.11	7.22	6.72
4	0.13	0.00	0.39	0.50	0.06	1.09	9.27	8.17	7.31	6.70
5	0.19	0.00	0.38	0.46	0.05	1.10	9.24	8.14	7.27	6.69
6	0.26	0.01	0.38	0.45	0.04	1.15	9.22	8.07	7.19	6.68
7	0.35	0.02	0.38	0.35	0.03	1.15	9.20	8.05	7.17	6.67
8	0.39	0.02	0.38	0.33	0.03	1.18	9.19	8.01	7.12	6.66
9	0.57	0.04	0.37	0.31	0.03	1.34	9.39	8.04	7.10	6.76
10	0.48	0.04	0.38	0.31	0.03	1.26	9.38	8.11	7.20	6.75
11	0.47	0.05	0.38	0.32	0.03	1.27	9.35	8.07	7.15	6.74
12	0.44	0.05	0.39	0.32	0.03	1.24	9.34	8.09	7.18	6.73
13	0.33	0.07	0.39	0.33	0.03	1.17	9.29	8.12	7.23	6.71
14	0.37	0.07	0.39	0.32	0.03	1.20	9.31	8.10	7.20	6.72
15	0.36	0.06	0.38	0.30	0.03	1.14	9.31	8.16	7.28	6.72
16	0.33	0.08	0.39	0.35	0.03	1.21	9.29	8.08	7.18	6.71
17	0.35	0.08	0.39	0.33	0.03	1.20	9.29	8.08	7.18	6.71
18	0.32	0.09	0.37	0.31	0.03	1.13	9.29	8.16	7.20	6.71
19	0.33	0.09	0.40	0.36	0.03	1.23	9.28	8.05	7.14	6.71
20	0.34	0.09	0.39	0.35	0.04	1.22	9.28	8.05	7.15	6.71
21	[illegible]	0.09	0.37	0.31	0.03	1.13	9.29	8.15	7.28	6.71
22	0.33	0.10	0.40	0.38	0.04	1.27	9.28	8.01	7.09	6.70
23	0.32	0.13	0.41	0.37	0.04	1.29	9.26	7.97	7.04	6.70
24	[illegible]	0.12	0.39	0.33	0.04	1.19	9.28	8.08	7.19	6.70
25	0.32	0.15	0.43	0.39	0.04	1.35	9.25	7.89	6.94	6.69
26	0.31	0.16	0.44	0.38	0.04	1.36	9.24	7.88	6.93	6.69
27	[illegible]	0.14	0.43	0.37	0.05	1.29	9.26	7.96	7.03	6.69
28	[illegible]	0.14	0.46	0.39	0.05	1.40	9.23	7.83	6.87	6.68
29	0.27	0.22	0.49	0.38	0.05	1.42	9.42	8.00	7.03	6.77
30	0.19	0.27	0.54	0.34	0.04	1.40	9.38	7.97	7.01	6.75
31	0.20	0.27	0.52	0.34	0.04	1.40	9.38	7.98	7.02	6.75
32	0.12	0.28	0.53	0.34	0.04	1.30	9.36	8.05	7.12	6.74
33	[illegible]	0.29	0.57	0.28	0.04	1.32	9.35	8.03	7.09	6.74
34	0.17	0.31	0.56	0.29	0.04	1.35	9.35	7.99	7.05	6.74
35	[illegible]	0.38	0.56	0.29	0.04	1.35	9.34	8.01	7.07	6.74
36	[illegible]	0.24	0.57	0.38	0.05	1.39	9.34	7.94	6.99	6.73

TABLE 17

DISSOLVED OXYGEN CALCULATED
DEEP WATER DISCHARGE - 1985 - WET SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO (MG/L) DO	90TH PERCENTILE DO	DO STANDARD
37	0.11	0.26	0.58	0.26	0.04	1.28	9.35	8.07	7.14	6.74
38	0.12	0.32	0.57	0.28	0.04	1.35	9.35	7.99	7.05	6.74
39	0.08	0.36	0.57	0.20	0.03	1.23	9.31	8.08	7.17	6.72
40	0.06	0.31	0.58	0.39	0.05	1.41	9.33	7.91	6.99	6.73
41	0.10	0.24	0.59	0.28	0.03	1.26	9.35	8.08	7.16	6.74
42	0.11	0.32	0.59	0.27	0.04	1.35	9.34	7.99	7.04	6.73
43	0.08	0.36	0.58	0.16	0.03	1.17	9.30	8.13	7.24	6.72
44	0.04	0.28	0.57	0.33	0.04	1.20	9.31	8.05	7.10	6.72
45	0.07	0.26	0.59	0.23	0.03	1.21	9.34	8.12	7.22	6.73
46	0.07	0.33	0.60	0.20	0.03	1.25	9.32	8.07	7.15	6.73
47	0.02	0.34	0.57	0.12	0.02	1.10	9.30	8.20	7.33	6.71
48	0.02	0.26	0.57	0.21	0.05	1.11	9.30	8.19	7.32	6.72
49	0.06	0.24	0.58	0.22	0.03	1.15	9.33	8.17	7.29	6.73
50	0.06	0.32	0.61	0.19	0.05	1.22	9.32	8.09	7.18	6.72
51	0.02	0.31	0.57	0.11	0.02	1.05	9.30	8.25	7.40	6.71
52	0.01	0.26	0.58	0.14	0.03	1.04	9.30	8.25	7.40	6.71
53	0.08	0.22	0.58	0.22	0.03	1.12	9.33	8.20	7.35	6.73
54	0.08	0.28	0.61	0.20	0.03	1.19	9.29	8.10	7.20	6.71
55	0.01	0.28	0.57	0.10	0.02	1.00	9.30	8.29	7.46	6.71
56	0.01	0.25	0.59	0.10	0.03	1.00	9.29	8.28	7.45	6.71
57	0.04	0.24	0.66	0.20	0.03	1.19	9.00	7.80	6.91	6.57
58	0.06	0.38	0.77	0.24	0.03	1.45	8.88	7.43	6.45	6.52
59	0.01	0.24	0.55	0.08	0.01	0.92	9.30	8.37	7.56	6.71
60	0.01	0.20	0.59	0.06	0.02	0.91	9.27	8.36	7.55	6.70
61	0.08	0.18	0.60	0.16	0.02	1.02	9.02	8.00	7.16	6.58
62	0.02	0.12	0.39	0.10	0.01	0.64	9.78	9.13	8.41	6.94
63	0.01	0.28	0.55	0.08	0.01	0.90	9.30	8.40	7.60	6.72
64	0.00	0.19	0.66	0.04	0.01	0.92	9.22	8.29	7.48	6.68
65	[illegible]	0.15	0.58	0.14	0.02	0.94	9.05	8.11	7.29	6.60
66	0.02	0.15	0.51	0.11	0.01	0.80	9.44	8.64	7.87	6.75
67	0.01	0.26	0.53	0.06	0.01	0.89	9.26	8.36	7.57	6.70
68	[illegible]	[illegible]	0.69	0.03	0.01	0.97	9.20	8.22	7.59	6.67
69	0.02	0.14	0.58	0.11	0.02	0.89	9.09	8.20	7.40	6.62
70	0.01	0.17	0.55	0.10	0.01	0.87	9.26	8.39	7.60	6.70
71	[illegible]	[illegible]	[illegible]	0.03	0.00	0.92	9.15	8.23	7.42	6.64
72	[illegible]	0.31	0.64	0.01	0.00	0.98	9.13	8.14	7.31	6.63

TABLE 17

DISSOLVED OXYGEN CALCULATED
DEEP WATER DISCHARGE - 1985 - WET SEASON

SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
	DO DEFICIT COMPONENTS (MG/L)							DO (MG/L)		
73	0.01	0.15	0.58	0.08	0.01	0.84	9.10	8.25	7.47	6.62
74	0.00	0.24	0.51	0.05	0.01	0.87	9.12	8.24	7.45	6.63
75	0.00	0.40	0.49	0.01	0.00	0.92	9.10	8.17	7.36	6.62
76	0.00	0.36	0.50	0.03	0.01	0.91	9.08	8.16	7.35	6.61
77	0.00	0.45	0.45	0.02	0.00	0.94	9.07	8.13	7.31	6.61
78	0.00	0.51	0.37	0.01	0.00	0.91	9.06	8.15	7.34	6.60
79	0.00	0.23	0.45	0.00	0.00	0.69	9.06	8.36	7.62	6.60
80	0.00	0.44	0.48	0.02	0.00	0.97	9.07	8.10	7.27	6.61
81	0.00	0.50	0.38	0.01	0.00	0.91	9.06	8.15	7.34	6.60
82	0.00	0.53	0.28	0.01	0.00	0.83	9.05	8.22	7.44	6.60
83	0.00	0.51	0.27	0.01	0.00	0.80	9.06	8.25	7.48	6.60
84	0.00	0.50	0.22	0.00	0.00	0.74	9.05	8.30	7.55	6.60
85	0.00	0.49	0.19	0.00	0.00	0.69	9.05	8.36	7.63	6.60
86	0.00	0.46	0.18	0.00	0.00	0.66	9.05	8.38	7.66	6.60
87	0.00	0.25	0.02	0.00	0.00	0.29	9.27	8.99	8.39	6.70
88	0.00	0.45	0.13	0.00	0.00	0.61	9.26	8.65	7.95	6.70
89	0.00	0.35	0.11	0.00	0.00	0.47	9.25	8.77	8.11	6.69
90	0.00	0.22	0.02	0.00	0.00	0.25	9.27	9.02	8.43	6.70
91	0.00	0.27	0.07	0.00	0.00	0.34	9.27	8.92	8.30	6.70
92	0.00	0.21	0.05	0.00	0.00	0.28	9.24	8.96	8.35	6.69
93	0.00	0.12	0.02	0.00	0.00	0.15	9.17	9.01	8.45	6.65
94	0.00	0.04	0.01	0.00	0.00	0.05	9.07	9.02	8.49	6.61
95	0.00	0.12	0.02	0.00	0.00	0.15	9.35	9.20	8.64	6.74
96	0.00	0.08	0.01	0.00	0.00	0.09	9.34	9.24	8.69	6.73
97	0.00	0.09	0.01	0.00	0.00	0.11	9.17	9.06	8.51	6.65
98	0.00	0.00	0.06	0.00	0.50	0.57	10.36	9.79	9.09	7.22
99	0.00	0.00	0.06	0.14	0.91	1.13	10.32	9.18	8.51	7.20
100	0.00	0.00	0.22	1.15	1.04	2.43	10.04	7.60	6.31	7.06
101	0.02	0.00	0.31	2.07	0.79	3.21	9.77	6.56	5.02	6.94
102	0.03	0.00	0.44	2.04	0.45	2.98	9.55	6.56	5.09	6.83
103	0.00	0.00	0.16	0.19	0.41	0.76	9.07	8.30	7.54	6.61
104	0.00	0.00	0.36	0.49	0.76	1.62	9.23	7.60	6.57	6.68
105	0.00	0.00	0.57	0.71	0.74	2.04	9.20	7.16	5.99	6.67
106	0.01	0.00	0.72	0.81	0.65	2.20	9.20	7.00	5.78	6.67
107	0.01	0.00	0.73	0.81	0.55	2.11	9.30	7.19	6.00	6.72
108	0.01	0.00	0.63	0.81	0.48	1.95	9.24	7.29	6.15	6.69

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TABLE 17

DISSOLVED OXYGEN CALCULATED
DEEP WATER DISCHARGE - 1985 - WET SEASON
DO DEFICIT COMPONENTS (MG/L)

SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO (MG/L) DO	DO (MG/L) 90TH PERCENTILE DO	DO (MG/L) 90TH PERCENTILE DO STANDARD
109	0.02	0.00	0.57	0.83	0.42	1.86	9.39	7.53	6.42	6.76
110	0.03	0.00	0.53	0.85	0.35	1.77	9.33	7.55	6.47	6.73
111	0.03	0.00	0.48	0.89	0.29	1.71	9.27	7.56	6.50	6.70
112	0.04	0.00	0.44	0.92	0.24	1.66	9.23	7.57	6.52	6.68
113	0.03	0.00	0.75	0.61	0.38	1.79	9.68	7.89	6.80	6.90
114	0.05	0.00	0.70	0.65	0.30	1.71	9.47	7.76	6.70	6.80
115	0.06	0.00	0.56	0.64	0.20	1.48	9.38	7.90	6.91	6.75
116	0.07	0.00	0.51	0.65	0.16	1.41	9.35	7.94	6.97	6.74
117	0.08	0.00	0.47	0.64	0.13	1.33	9.32	7.99	7.05	6.73
118	0.09	0.00	0.05	6.87	0.75	7.72	9.70	1.98	0.00	6.91
119	0.08	0.00	0.28	2.84	0.27	3.49	9.41	5.91	4.28	6.76
120	0.10	0.00	0.45	1.16	0.10	1.91	9.27	7.36	6.23	6.70
121	0.00	0.00	1.03	0.30	0.84	2.18	10.11	7.92	6.71	7.10
122	0.02	0.00	1.87	0.61	0.44	2.95	9.77	6.82	5.36	6.94
123	0.05	0.00	1.14	0.59	0.22	1.82	9.57	7.74	6.65	6.84
124	0.16	0.00	0.64	0.32	0.12	1.26	9.37	8.11	7.20	6.75
125	0.27	0.01	0.50	0.29	0.05	1.13	9.26	8.12	7.24	6.70
126	0.01	0.00	0.02	2.46	0.67	3.17	9.78	6.60	5.07	6.94
127	0.08	0.01	0.30	1.07	0.16	1.64	9.23	7.58	6.54	6.68
128	0.19	0.03	0.48	0.96	0.05	1.72	9.12	7.39	6.33	6.63
129	0.00	0.00	0.00	1.23	0.84	2.08	10.28	8.20	7.02	7.18
130	0.01	0.00	0.00	4.36	0.70	5.09	9.88	4.78	2.64	6.99
131	0.03	0.00	0.06	5.84	0.35	6.29	9.53	3.24	0.71	6.83
132	0.08	0.01	0.37	2.76	0.12	3.36	9.23	5.87	4.28	6.68
133	0.19	0.05	0.67	1.23	0.05	2.20	9.12	6.91	5.69	6.63
134	0.26	0.07	0.58	0.74	0.04	1.71	9.09	7.38	6.32	6.62
135	0.18	0.05	0.40	0.39	0.11	1.15	9.11	7.95	7.06	6.62
136	0.20	0.06	0.44	0.40	0.10	1.21	9.09	7.87	6.97	6.61
137	0.23	0.09	0.45	0.39	0.08	1.25	9.07	7.82	6.90	6.61
138	0.26	0.10	0.44	0.39	0.06	1.28	9.06	7.78	6.85	6.60
139	0.29	0.12	0.43	0.38	0.05	1.29	9.06	7.76	6.83	6.60
140	0.23	0.03	0.45	0.40	0.11	1.24	9.18	7.94	7.03	6.66
141	0.30	0.05	0.43	0.33	0.06	1.18	9.12	7.94	7.05	6.63

TABLE 18

DISSOLVED OXYGEN CALCULATED
DEEP WATER DISCHARGE - 1995 - WET SEASON

	DO DEFICIT COMPONENTS (MG/L)							DO (MG/L)		
									90TH PERCENTILE	
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	DO	DO STANDARD
1	0.05	0.00	0.41	0.92	0.20	1.60	9.41	7.81	6.78	6.77
2	0.09	0.00	0.39	0.76	0.14	1.39	9.35	7.95	6.99	6.74
3	0.11	0.00	0.40	0.59	0.09	1.20	9.30	8.09	7.19	6.72
4	0.16	0.00	0.39	0.50	0.06	1.12	9.27	8.15	7.27	6.70
5	0.22	0.00	0.38	0.46	0.05	1.14	9.24	8.10	7.23	6.69
6	0.31	0.01	0.38	0.43	0.04	1.20	9.22	8.02	7.12	6.68
7	0.41	0.02	0.38	0.35	0.03	1.22	9.20	7.98	7.08	6.67
8	0.47	0.02	0.38	0.33	0.03	1.25	9.19	7.93	7.02	6.66
9	0.69	0.04	0.37	0.31	0.03	1.46	9.39	7.93	6.95	6.76
10	0.58	0.04	0.38	0.31	0.03	1.35	9.38	8.02	7.07	6.75
11	0.56	0.05	0.38	0.32	0.03	1.36	9.35	7.99	7.04	6.74
12	0.52	0.05	0.38	0.32	0.03	1.32	9.34	8.01	7.08	6.73
13	0.39	0.07	0.39	0.33	0.03	1.23	9.29	8.06	7.16	6.71
14	0.43	0.07	0.39	0.32	0.03	1.26	9.31	8.04	7.13	6.72
15	0.41	0.06	0.38	0.30	0.03	1.20	9.31	8.10	7.21	6.72
16	0.38	0.09	0.39	0.35	0.03	1.26	9.29	8.02	7.11	6.71
17	0.40	0.09	0.39	0.33	0.03	1.26	9.29	8.03	7.11	6.71
18	0.37	0.09	0.37	0.31	0.03	1.18	9.29	8.11	7.21	6.71
19	0.38	0.09	0.40	0.36	0.03	1.25	9.28	8.00	7.07	6.71
20	0.39	0.09	0.39	0.35	0.04	1.28	9.28	8.00	7.08	6.71
21	0.37	0.09	0.37	0.31	0.03	1.19	9.29	8.10	7.21	6.71
22	0.38	0.10	0.40	0.38	0.04	1.32	9.28	7.95	7.02	6.70
23	0.38	0.13	0.41	0.37	0.04	1.34	9.26	7.92	6.97	6.70
24	0.36	0.10	0.39	0.33	0.04	1.24	9.28	8.03	7.12	6.70
25	0.37	0.15	0.43	0.39	0.04	1.40	9.25	7.84	6.88	6.69
26	0.36	0.16	0.44	0.38	0.04	1.41	9.24	7.83	6.86	6.69
27	0.35	0.13	0.43	0.37	0.05	1.34	9.26	7.91	6.97	6.69
28	0.34	0.17	0.46	0.39	0.05	1.44	9.23	7.78	6.81	6.68
29	0.31	0.22	0.49	0.38	0.05	1.46	9.42	7.96	6.98	6.77
30	0.22	0.27	0.54	0.34	0.04	1.43	9.38	7.94	6.97	6.75
31	0.23	0.27	0.52	0.34	0.04	1.43	9.38	7.95	6.98	6.75
32	0.14	0.25	0.53	0.34	0.04	1.32	9.36	8.03	7.09	6.74
33	0.15	0.29	0.57	0.28	0.04	1.34	9.35	8.01	7.06	6.74
34	0.15	0.31	0.56	0.29	0.04	1.37	9.35	7.97	7.02	6.74
35	0.14	0.33	0.56	0.28	0.04	1.35	9.34	7.99	7.04	6.74
36	0.10	[illegible]	0.57	0.39	0.05	1.40	9.34	7.93	6.97	6.73

TABLE 18

DISSOLVED OXYGEN CALCULATED
DEEP WATER DISCHARGE - 1995 - WET SEASON

	DO DEFICIT COMPONENTS (MG/L)							DO (MG/L)		
									90TH PERCENTILE	
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	DO	DO STANDARD
37	0.13	0.26	0.58	0.26	0.04	1.30	9.35	8.05	7.12	6.74
38	0.14	0.32	0.57	0.28	0.04	1.37	9.35	7.97	7.02	6.74
39	0.06	0.36	0.57	0.20	0.03	1.24	9.31	8.07	7.16	6.72
40	0.07	0.31	0.58	0.39	0.05	1.42	9.33	7.90	6.93	6.73
41	0.12	0.24	0.59	0.28	0.03	1.28	9.35	8.07	7.14	6.74
42	0.12	0.32	0.59	0.27	0.04	1.37	9.34	7.97	7.02	6.73
43	0.04	0.36	0.59	0.16	0.03	1.18	9.30	8.12	7.24	6.72
44	0.04	0.24	0.57	0.33	0.04	1.29	9.31	8.02	7.10	6.72
45	0.08	0.26	0.59	0.23	0.03	1.22	9.34	8.11	7.21	6.73
46	0.08	0.33	0.60	0.20	0.03	1.26	9.32	8.06	7.14	6.73
47	0.02	0.34	0.57	0.12	0.02	1.10	9.30	8.19	7.33	6.71
48	0.02	0.26	0.57	0.21	0.03	1.12	9.30	8.18	7.31	6.72
49	0.07	0.24	0.58	0.22	0.03	1.16	9.33	8.16	7.28	6.73
50	0.07	0.32	0.61	0.19	0.03	1.23	9.32	8.08	7.17	6.72
51	0.02	0.31	0.57	0.11	0.02	1.05	9.30	8.24	7.39	6.71
52	0.02	0.26	0.58	0.14	0.03	1.04	9.30	8.25	7.40	6.71
53	0.06	0.22	0.58	0.22	0.03	1.15	9.33	8.19	7.32	6.73
54	0.06	0.28	0.61	0.20	0.03	1.20	9.29	8.09	7.19	6.71
55	0.02	0.28	0.57	0.10	0.02	1.00	9.30	8.29	7.45	6.71
56	0.01	0.25	0.59	0.10	0.03	1.01	9.29	8.28	7.44	6.71
57	0.05	0.24	0.66	0.20	0.03	1.20	9.00	7.80	6.90	6.57
58	0.07	0.33	0.77	0.24	0.03	1.46	8.88	7.42	6.44	6.52
59	0.01	0.24	0.55	0.08	0.01	0.92	9.30	8.37	7.56	6.78
60	0.01	0.20	0.59	0.06	0.02	0.91	9.27	8.35	7.55	6.70
61	0.04	0.19	0.60	0.16	0.02	1.02	9.02	7.99	7.15	6.50
62	0.02	0.12	0.38	0.10	0.01	0.65	9.78	9.13	8.41	6.90
63	0.01	0.23	0.55	0.08	0.01	0.90	9.30	8.40	7.59	6.78
64	0.00	0.13	0.66	0.04	0.01	0.93	9.22	8.29	7.48	6.60
65	0.03	0.15	0.58	0.14	0.02	0.95	9.05	8.10	7.29	6.60
66	0.02	0.13	0.51	0.11	0.01	0.80	9.44	8.63	7.86	6.78
67	0.01	0.26	0.53	0.06	0.01	0.89	9.26	8.36	7.56	6.70
68	0.00	0.22	0.69	0.03	0.01	0.98	9.20	8.22	7.39	6.67
69	0.02	0.14	0.58	0.11	0.02	0.89	9.09	8.20	7.40	6.62
70	0.02	0.17	0.55	0.10	0.01	0.87	9.26	8.39	7.60	6.70
71	0.00	0.33	0.53	0.03	0.00	0.92	9.15	8.23	7.42	6.64
72	0.00	0.31	0.64	0.01	0.00	0.98	9.13	8.14	7.31	6.63

TABLE 18

DISSOLVED OXYGEN CALCULATED
DEEP WATER DISCHARGE - 1995 - WET SEASON

	DO DEFICIT COMPONENTS (MG/L)							DO (MG/L)		
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
73	0.01	0.15	0.58	0.08	0.01	0.85	9.10	8.25	7.46	6.62
74	0.00	0.28	0.51	0.05	0.01	0.87	9.12	8.24	7.45	6.63
75	0.00	0.40	0.49	0.01	0.00	0.92	9.10	8.17	7.36	6.62
76	0.00	0.36	0.50	0.03	0.01	0.91	9.08	8.16	7.35	6.61
77	0.00	0.45	0.45	0.02	0.00	0.94	9.07	8.13	7.31	6.61
78	0.00	0.51	0.37	0.01	0.00	0.91	9.06	8.15	7.34	6.60
79	0.00	0.23	0.45	0.00	0.00	0.70	9.06	8.36	7.62	6.60
80	0.00	0.44	0.48	0.02	0.00	0.97	9.07	8.10	7.27	6.61
81	0.00	0.50	0.38	0.01	0.00	0.91	9.06	8.14	7.34	6.60
82	0.00	0.53	0.28	0.01	0.00	0.83	9.05	8.22	7.44	6.60
83	0.00	0.51	0.27	0.01	0.00	0.80	9.06	8.25	7.48	6.60
84	0.00	0.50	0.22	0.00	0.00	0.74	9.05	8.30	7.55	6.60
85	0.00	0.48	0.19	0.00	0.00	0.69	9.05	8.36	7.63	6.60
86	0.00	0.46	0.18	0.00	0.00	0.66	9.05	8.38	7.66	6.60
87	0.00	0.25	0.02	0.00	0.00	0.28	9.27	8.99	8.39	6.70
88	0.00	0.45	0.13	0.00	0.00	0.61	9.26	8.65	7.94	6.70
89	0.00	0.35	0.11	0.00	0.00	0.47	9.25	[illegible]	8.11	6.69
90	0.00	0.22	0.02	0.00	0.00	0.25	9.27	9.02	8.43	6.70
91	0.00	0.27	0.07	0.00	0.00	0.34	9.27	8.92	8.30	6.70
92	0.00	0.21	0.05	0.00	0.00	0.28	9.24	8.96	8.35	6.69
93	0.00	0.12	0.02	0.00	0.00	0.15	9.17	9.01	8.45	6.65
94	0.00	0.04	0.01	0.00	0.00	0.05	9.07	9.02	8.49	6.61
95	0.00	0.12	0.02	0.00	0.00	0.15	9.35	9.20	8.64	6.74
96	0.00	0.08	0.01	0.00	0.00	0.09	9.34	9.24	8.69	6.73
97	0.00	0.09	0.01	0.00	0.00	0.11	9.17	9.06	8.51	6.65
98	0.00	0.00	0.06	0.00	0.50	0.57	10.36	9.79	9.09	7.22
99	0.00	0.00	0.06	0.14	0.91	1.13	10.32	9.18	8.31	7.20
100	0.01	0.00	0.22	1.15	1.04	2.43	10.04	7.60	6.31	7.06
101	0.02	0.00	0.31	2.07	0.79	3.21	9.77	6.55	5.01	6.94
102	0.04	0.00	0.44	2.04	0.45	2.99	9.55	6.55	5.09	6.83
103	0.00	0.00	0.16	0.19	0.41	0.76	9.07	8.30	7.54	6.61
104	0.00	0.00	0.36	0.49	0.76	1.62	9.23	7.60	6.57	6.68
105	0.00	0.00	0.57	0.71	0.74	2.04	9.20	7.16	5.99	6.57
106	0.01	0.00	0.72	0.81	0.65	2.20	9.20	6.99	5.78	6.67
107	0.01	0.00	0.73	0.81	0.55	2.11	9.30	7.18	5.99	6.72
108	0.00	0.00	0.63	0.81	0.48	1.96	9.24	7.28	6.14	6.69

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TABLE 18

DISSOLVED OXYGEN CALCULATED
DEEP WATER DISCHARGE - 1995 - WET SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO (MG/L) DO	90TH PERCENTILE DO	DO STANDARD
109	0.03	0.00	0.57	0.93	0.42	1.86	9.39	7.52	6.41	6.76
110	0.04	0.00	0.53	0.95	0.35	1.79	9.38	7.59	6.46	6.73
111	0.06	0.00	0.40	0.89	0.29	1.72	9.27	7.55	6.49	6.70
112	0.08	0.00	0.44	0.92	0.24	1.67	9.23	7.56	6.31	6.68
113	0.06	0.00	0.75	0.61	0.30	1.80	9.60	7.80	6.79	6.90
114	0.06	0.00	0.70	0.65	0.30	1.72	9.47	7.75	6.69	6.80
115	0.07	0.00	0.36	0.60	0.20	1.49	9.38	7.89	6.87	6.73
116	0.08	0.00	0.51	0.65	0.16	1.42	9.35	7.93	6.95	6.74
117	0.08	0.00	0.57	0.64	0.13	1.35	9.32	7.97	7.03	6.73
118	0.06	0.03	0.85	6.07	0.75	7.73	9.70	1.97	0.00	6.91
119	0.10	0.00	3.20	2.04	0.27	8.51	9.91	5.09	0.86	6.76
120	0.22	0.00	0.45	1.16	0.10	1.95	9.27	7.32	6.19	6.70
121	0.00	0.00	1.03	0.30	0.09	2.19	10.11	7.92	6.71	7.10
122	0.03	0.09	1.07	0.61	0.44	2.95	9.77	6.82	5.86	6.99
123	0.06	0.00	1.14	0.39	0.22	1.85	9.57	7.73	6.63	6.89
124	0.30	0.00	0.60	0.32	0.12	1.29	9.37	8.08	7.13	6.73
125	0.33	0.01	0.50	0.29	0.05	1.19	9.26	8.07	7.10	6.78
126	0.01	0.00	0.02	2.46	0.67	3.10	9.70	6.60	5.07	6.99
127	0.00	0.01	0.30	1.07	0.16	1.66	9.23	7.57	6.52	6.68
128	0.21	0.03	0.40	0.96	0.05	1.75	9.12	7.36	6.29	6.63
129	0.00	0.00	0.00	1.23	0.04	2.00	10.20	8.20	7.02	7.10
130	0.01	0.00	0.00	4.36	0.70	5.09	9.80	4.71	2.64	6.89
131	0.09	0.09	0.06	5.00	0.55	6.30	9.53	3.23	0.70	6.83
132	0.10	0.01	0.37	2.76	0.12	3.37	9.23	5.86	4.27	6.68
133	0.21	0.05	0.67	1.23	0.05	2.28	9.12	6.84	5.65	6.63
134	0.30	0.07	0.39	1.76	0.04	1.75	9.09	7.34	6.27	6.62
135	0.21	0.05	0.40	0.39	0.11	1.19	9.11	7.92	7.03	6.62
136	0.29	0.06	0.44	0.40	0.10	1.24	9.09	7.85	6.93	6.61
137	0.27	0.08	0.45	0.39	0.08	1.29	9.07	7.78	6.86	6.61
138	0.33	0.17	0.44	0.39	0.06	1.32	9.06	7.74	6.80	6.60
139	0.33	0.12	0.43	0.30	0.03	1.34	9.06	7.72	6.77	6.60
140	0.27	0.03	0.45	0.40	0.11	1.20	9.10	7.90	6.98	6.66
141	0.35	0.09	0.43	0.53	0.05	1.23	9.12	7.89	6.99	6.63

TABLE 19

DISSOLVED OXYGEN CALCULATED
DP 31 DISCHARGE - 1985 - DRY SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L)							DO (MG/L)		
	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
1	0.00	0.00	0.34	1.48	0.00	1.70	7.47	5.88	5.68	5.89
2	0.00	0.00	0.33	1.14	0.00	1.40	7.47	5.99	5.00	5.80
3	0.00	0.00	0.33	0.86	0.00	1.21	7.48	6.27	5.37	5.85
4	0.01	0.00	0.32	0.72	0.00	1.06	7.49	6.42	5.57	5.85
5	0.02	0.00	0.32	0.66	0.00	1.01	7.49	6.48	5.34	5.86
6	0.03	0.00	0.32	0.63	0.00	1.00	7.50	6.50	5.44	5.86
7	0.04	0.01	0.32	0.50	0.00	0.89	7.51	6.61	5.81	5.86
8	0.05	0.01	0.32	0.47	0.00	0.88	7.51	6.63	5.80	5.87
9	0.09	0.03	0.32	0.44	0.00	0.90	7.60	6.70	5.90	5.90
10	0.08	0.03	0.32	0.44	0.00	0.89	7.60	6.70	5.79	5.90
11	0.11	0.04	0.30	0.46	0.00	0.95	7.60	6.69	5.87	5.90
12	0.11	0.04	0.32	0.46	0.00	0.94	7.64	6.69	5.80	5.93
13	0.10	0.06	0.33	0.45	0.00	1.02	7.65	6.62	5.77	5.90
14	0.14	0.05	0.33	0.47	0.00	1.00	7.65	6.65	[illegible]	5.90
15	0.13	0.05	0.32	0.43	0.00	0.95	7.64	6.70	[illegible]	5.90
16	0.16	0.06	0.30	0.52	0.00	1.07	7.65	6.55	5.59	5.90
17	0.16	0.07	0.30	0.49	0.00	1.06	7.65	6.50	5.78	5.90
18	0.15	0.06	0.31	0.45	0.00	0.98	7.65	6.66	5.80	5.95
19	0.17	0.07	0.35	0.54	0.00	1.13	7.65	6.51	5.64	5.90
20	0.18	0.08	0.33	0.51	0.00	1.12	7.65	6.52	5.68	5.93
21	0.15	0.06	0.31	0.45	0.00	0.99	7.65	6.60	5.82	5.90
22	0.19	0.08	0.34	0.50	0.00	1.20	7.65	6.45	5.98	5.90
23	0.23	0.11	0.35	0.50	0.00	1.26	7.65	6.39	5.97	5.90
24	0.19	0.08	0.30	0.49	0.00	1.10	7.65	6.54	5.60	5.90
25	0.20	0.13	0.36	0.59	0.00	1.30	7.65	6.36	5.38	5.90
26	0.29	0.14	0.37	0.58	0.00	1.40	7.65	6.39	5.28	5.90
27	0.23	0.12	0.36	0.55	0.00	1.29	7.65	6.36	5.43	5.90
28	0.32	0.17	0.39	0.59	0.00	1.48	7.68	6.17	5.10	5.90
29	0.35	0.20	0.41	0.50	0.00	1.56	7.79	6.12	5.22	5.90
30	0.37	0.25	0.46	0.52	0.00	1.62	7.79	6.17	5.14	6.00
31	0.30	0.25	0.44	0.53	0.00	1.61	7.79	6.17	5.10	6.00
32	0.24	0.22	0.43	0.50	0.00	1.40	7.78	6.29	5.31	6.00
33	0.26	0.27	0.47	0.45	0.00	1.47	7.77	6.30	5.21	5.99
34	0.27	0.30	0.48	0.46	0.00	1.58	7.77	6.25	5.25	5.99
35	0.24	0.31	0.48	0.49	0.00	1.48	7.77	6.29	5.30	5.99
36	0.19	0.26	0.49	0.64	0.00	1.59	7.77	6.17	5.15	5.99

TABLE 17

DISSOLVED OXYGEN CALCULATED
OP 31 DISCHARGE - 1983 - DRY SEASON

	DO DEFICIT COMPONENTS (MG/L)							DO (MG/L)		
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
37	0.24	0.24	0.50	0.41	0.00	1.41	7.77	6.35	5.39	5.99
38	0.26	0.30	0.49	0.44	0.00	1.50	7.77	6.26	5.27	5.99
39	0.12	0.34	0.50	0.38	0.00	1.29	7.75	6.46	5.38	5.98
40	0.15	0.30	0.50	0.67	0.00	1.62	7.76	6.14	5.11	5.98
41	0.22	0.22	0.50	0.45	0.00	1.40	7.77	6.36	5.40	5.99
42	0.24	0.31	0.51	0.42	0.00	1.49	7.77	6.27	5.28	5.99
43	0.08	0.34	0.50	0.25	0.00	1.19	7.75	6.56	5.67	5.98
44	0.07	0.46	0.49	0.36	0.00	1.41	7.76	6.35	5.38	5.98
45	0.16	0.24	0.51	0.37	0.00	1.29	7.77	6.47	5.54	5.99
46	0.15	0.31	0.52	0.32	0.00	1.31	7.76	6.45	5.58	5.98
47	0.05	0.32	0.50	0.19	0.00	1.07	7.75	6.67	5.80	5.98
48	0.05	0.24	0.48	0.35	0.00	1.13	7.75	6.61	5.79	5.90
49	0.15	0.21	0.56	0.36	0.00	1.24	7.76	6.52	5.62	5.90
50	0.14	0.30	0.53	0.30	0.00	1.28	7.75	6.47	5.55	5.98
51	0.09	0.20	0.50	0.16	0.00	1.00	7.75	6.76	5.86	5.90
52	0.04	0.23	0.49	0.22	0.00	0.99	7.75	6.75	5.98	5.98
53	0.13	0.19	0.50	0.35	0.00	1.19	7.75	6.56	5.67	5.98
54	0.12	0.25	0.53	0.32	0.00	1.24	7.72	6.48	5.57	5.97
55	0.05	0.26	0.49	0.14	0.00	0.99	7.79	6.80	5.79	5.98
56	0.03	0.28	0.51	0.15	0.00	0.98	7.75	6.82	6.01	5.98
57	0.11	0.28	0.56	0.31	0.00	1.19	7.45	6.25	5.36	5.83
58	0.14	0.29	0.66	0.30	0.00	1.50	7.34	5.84	4.86	5.78
59	0.03	0.20	0.40	0.11	0.00	0.84	7.76	6.91	6.12	5.98
60	0.02	0.17	0.51	0.09	0.00	0.80	7.73	6.93	6.16	5.97
61	0.07	0.14	0.50	0.24	0.00	0.97	7.45	6.40	5.66	5.84
62	0.05	0.10	0.33	0.14	0.00	0.63	8.16	7.52	6.81	6.17
63	0.03	0.19	0.40	0.11	0.00	0.82	7.76	6.94	6.16	5.98
64	0.01	0.15	0.57	0.05	0.00	0.80	7.78	6.95	6.13	5.96
65	0.06	0.12	0.49	0.19	0.00	0.87	7.49	6.61	5.82	5.83
66	0.04	0.10	0.44	0.15	0.00	0.75	7.84	7.09	6.33	6.02
67	0.07	0.22	0.47	0.09	0.00	0.81	7.76	6.95	6.13	5.97
68	0.01	0.16	0.61	0.04	0.00	0.85	7.69	6.83	6.04	5.95
69	0.04	0.10	0.50	0.15	0.00	0.88	7.79	6.91	6.21	6.00
70	0.03	0.13	0.49	0.13	0.00	0.79	7.97	7.18	6.41	6.09
71	0.01	0.30	0.47	0.08	0.00	0.82	7.95	7.12	6.34	6.07
72	0.00	0.27	0.50	0.02	0.00	0.88	7.93	7.05	6.25	6.06

TABLE 19

DISSOLVED OXYGEN CALCULATED
DP 31 DISCHARGE - 1985 - DRY SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO (MG/L) DO	90TH PERCENTILE DO	DO STANDARD
73	0.07	0.12	0.31	0.09	0.00	0.76	7.81	7.04	6.29	6.01
74	0.01	0.25	0.45	0.05	0.00	0.78	7.91	7.13	6.36	6.06
75	0.00	0.37	0.44	0.01	0.00	0.84	7.93	7.08	6.30	6.06
76	0.00	0.35	0.44	0.03	0.00	0.83	7.89	7.06	6.26	6.05
77	0.01	0.44	0.41	0.02	0.00	0.88	7.91	7.03	6.23	6.06
78	0.00	0.50	0.34	0.01	0.00	0.86	7.93	7.07	6.28	6.07
79	0.00	0.21	0.40	0.00	0.00	0.62	7.93	7.31	6.60	6.07
80	0.00	0.44	0.44	0.02	0.00	0.91	7.91	6.99	6.19	6.05
81	0.00	0.51	0.34	0.01	0.00	0.87	7.93	7.06	6.26	6.06
82	0.00	0.54	0.25	0.01	0.00	0.81	7.95	7.13	6.36	6.07
83	0.00	0.52	0.24	0.01	0.00	0.78	7.95	7.16	6.40	6.07
84	0.00	0.52	0.20	0.00	0.00	0.73	7.95	7.22	6.46	6.08
85	0.00	0.50	0.16	0.00	0.00	0.68	7.96	7.27	6.54	6.08
86	0.00	0.48	0.16	0.00	0.00	0.63	7.96	7.30	6.58	6.08
87	0.00	0.24	0.02	0.00	0.00	0.26	8.09	7.82	7.22	6.14
88	0.00	0.49	0.12	0.00	0.00	0.61	8.12	7.51	6.88	6.15
89	0.00	0.36	0.10	0.00	0.00	0.46	8.12	7.65	6.99	6.15
90	0.00	0.21	0.02	0.00	0.00	0.23	8.13	7.89	7.38	6.16
91	0.00	0.29	0.06	0.00	0.00	0.35	8.14	7.79	7.16	6.16
92	0.00	0.22	0.05	0.00	0.00	0.28	8.13	7.85	7.24	6.16
93	0.00	0.12	0.02	0.00	0.00	0.14	8.10	7.95	7.39	6.14
94	0.00	0.04	0.00	0.00	0.00	0.05	8.21	8.16	7.64	6.20
95	0.00	0.14	0.02	0.00	0.00	0.17	8.20	8.03	7.46	6.19
96	0.00	0.08	0.01	0.00	0.00	0.10	8.20	8.10	7.56	6.19
97	0.00	0.09	0.01	0.00	0.00	0.09	8.18	8.09	7.66	6.18
98	0.00	0.00	0.20	2.03	0.00	2.23	7.46	5.22	3.99	5.94
99	0.00	0.00	0.09	3.24	0.00	3.34	7.46	4.12	2.54	5.89
100	0.03	0.00	0.24	4.52	0.00	4.77	7.46	2.68	0.64	5.89
101	0.00	0.00	0.29	4.87	0.00	5.17	7.46	2.29	0.12	5.89
102	0.00	0.00	0.39	3.79	0.00	4.18	7.46	3.28	1.43	5.90
103	0.00	0.00	1.05	5.73	0.00	6.78	7.08	0.30	0.00	5.66
104	0.00	0.00	0.99	4.62	0.00	5.61	7.08	1.47	0.00	5.66
105	0.00	0.00	0.75	2.48	0.00	3.24	7.17	3.92	2.37	5.70
106	0.00	0.00	0.70	1.91	0.00	2.61	7.17	4.55	3.20	5.70
107	0.00	0.00	0.64	1.63	0.00	2.27	7.17	4.89	3.65	5.70
108	0.00	0.00	0.54	1.50	0.00	2.04	7.26	5.21	4.04	5.74

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TABLE 17

DISSOLVED OXYGEN CALCULATED
DP 31 DISCHARGE - 1985 - DRY SEASON

	DO DEFICIT COMPONENTS (MG/L)							DO (MG/L)		
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
109	0.00	0.00	0.48	1.45	0.00	1.93	7.25	5.32	4.19	5.79
110	0.00	0.00	0.44	1.42	0.00	1.86	7.25	5.39	4.28	5.79
111	0.00	0.00	0.40	1.48	0.00	1.88	7.36	5.48	4.41	5.79
112	0.00	0.00	0.37	1.45	0.00	1.82	7.36	5.54	4.43	5.79
113	0.00	0.00	0.85	1.50	0.00	2.35	7.48	5.13	3.87	5.85
114	0.00	0.00	0.64	1.20	0.00	1.84	7.48	5.64	4.58	5.85
115	0.00	0.00	0.48	1.04	0.00	1.52	7.48	5.96	4.96	5.85
116	0.00	0.00	0.45	1.01	0.00	1.46	7.48	6.02	5.09	5.85
117	0.00	0.00	0.40	0.97	0.00	1.38	7.48	6.10	5.19	5.85
118	0.00	0.00	0.85	7.07	0.00	7.92	7.50	-0.42	0.00	5.86
119	0.00	0.00	0.27	4.97	0.00	5.24	7.50	2.26	0.00	5.86
120	0.01	0.00	0.30	1.98	0.00	2.31	7.50	5.19	3.94	5.86
121	0.00	0.00	0.99	0.77	0.00	1.76	7.50	5.74	4.66	5.86
122	0.00	0.00	1.61	1.02	0.00	2.63	7.50	4.87	3.53	5.86
123	0.09	0.00	0.85	0.51	0.00	1.45	7.50	6.05	5.07	5.86
124	0.01	0.00	0.53	0.38	0.00	0.92	7.50	6.58	5.77	5.86
125	0.03	0.00	0.42	0.37	0.00	0.84	7.50	6.66	5.88	5.86
126	0.00	0.00	0.02	5.30	0.00	5.32	7.52	2.20	0.00	5.87
127	0.04	0.00	0.26	1.62	0.00	1.92	7.52	5.60	4.47	5.87
128	0.07	0.02	0.41	1.57	0.00	2.07	7.52	5.45	4.28	5.87
129	0.00	0.00	0.00	6.59	0.00	6.60	7.52	0.92	0.00	5.87
130	0.00	0.00	0.01	6.65	0.00	6.66	7.52	0.86	0.00	5.87
131	0.01	0.00	0.05	6.09	0.00	6.15	7.52	1.37	0.00	5.87
132	0.04	0.01	0.32	4.83	0.00	5.21	7.52	2.31	0.13	5.87
133	0.09	0.03	0.59	2.19	0.00	2.90	7.52	4.62	3.16	5.87
134	0.14	0.05	0.50	1.30	0.00	1.99	7.52	5.53	4.38	5.87
135	0.13	0.04	0.36	0.65	0.00	1.18	7.53	6.35	5.45	5.87
136	0.16	0.05	0.37	0.64	0.00	1.23	7.53	6.30	5.39	5.87
137	0.17	0.07	0.38	0.62	0.00	1.26	7.53	6.27	5.35	5.87
138	0.21	0.09	0.38	0.60	0.00	1.28	7.53	6.25	5.32	5.87
139	0.25	0.10	0.37	0.57	0.00	1.29	7.53	6.24	5.31	5.87
140	0.07	0.02	0.40	0.72	0.00	1.21	7.52	6.31	5.41	5.87
141	0.10	0.03	0.37	0.93	0.00	1.43	7.52	6.09	5.05	5.87

TABLE 20

DISSOLVED OXYGEN CALCULATED
OP 31 DISCHARGE - 1995 - CANNING SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO (MG/L) DO	90TH PERCENTILE DO	DO STANDARD
1	0.00	0.00	0.34	1.45	0.00	1.78	7.47	5.68	4.60	5.94
2	0.00	0.00	0.33	1.15	0.00	1.48	7.47	5.99	5.00	5.95
3	0.01	0.00	0.33	0.86	0.00	1.21	7.48	6.26	5.36	5.95
4	0.01	0.00	0.32	0.72	0.00	1.06	7.49	6.42	5.57	5.95
5	0.02	0.00	0.32	0.66	0.00	1.01	7.49	6.48	5.64	5.96
6	0.03	0.00	0.32	0.65	0.00	1.01	7.50	6.49	5.66	5.96
7	0.04	0.01	0.32	0.50	0.00	0.90	7.51	6.60	5.90	5.96
8	0.06	0.01	0.32	0.47	0.00	0.89	7.51	6.62	5.82	5.97
9	0.11	0.03	0.32	0.44	0.00	0.92	7.64	6.72	5.91	5.93
10	0.10	0.03	0.32	0.44	0.00	0.91	7.64	6.72	5.92	5.93
11	0.14	0.04	0.32	0.46	0.00	0.97	7.64	6.66	5.84	5.93
12	0.13	0.04	0.32	0.46	0.00	0.97	7.64	6.67	5.85	5.93
13	0.18	0.06	0.33	0.48	0.00	1.06	7.65	6.59	5.73	5.93
14	0.17	0.05	0.33	0.47	0.00	1.04	7.65	6.60	5.76	5.93
15	0.15	0.05	0.32	0.45	0.00	0.97	7.64	6.67	5.84	5.93
16	0.20	0.06	0.33	0.52	0.00	1.12	7.65	6.52	5.64	5.93
17	0.20	0.07	0.33	0.49	0.00	1.10	7.65	6.54	5.68	5.93
18	0.18	0.06	0.31	0.45	0.00	1.02	7.65	6.63	5.79	5.93
19	0.21	0.07	0.33	0.54	0.00	1.17	7.65	6.47	5.59	5.93
20	0.23	0.09	0.33	0.51	0.00	1.16	7.65	6.48	5.60	5.93
21	0.19	0.06	0.31	0.45	0.00	1.02	7.65	6.62	5.78	5.93
22	0.25	0.08	0.34	0.56	0.00	1.24	7.65	6.40	5.49	5.93
23	0.29	0.11	0.35	0.55	0.00	1.31	7.65	6.33	5.40	5.93
24	0.23	0.08	0.32	0.49	0.00	1.14	7.65	6.50	5.62	5.93
25	0.34	0.13	0.36	0.59	0.00	1.45	7.65	6.20	5.22	5.93
26	0.35	0.14	0.37	0.58	0.00	1.47	7.65	6.18	5.19	5.93
27	0.30	0.12	0.36	0.55	0.00	1.35	7.65	6.30	5.35	5.93
28	0.39	0.17	0.39	0.59	0.00	1.56	7.65	6.09	5.08	5.93
29	0.44	0.20	0.41	0.58	0.00	1.65	7.79	6.14	5.10	6.00
30	0.46	0.25	0.46	0.52	0.00	1.70	7.79	6.08	5.02	6.00
31	0.47	0.25	0.44	0.53	0.00	1.70	7.79	6.08	5.02	6.00
32	0.30	0.22	0.45	0.55	0.00	1.54	7.78	6.24	5.23	5.99
33	0.34	0.27	0.49	0.43	0.00	1.53	7.77	6.24	5.25	5.99
34	0.33	0.30	0.48	0.46	0.00	1.58	7.77	6.19	5.17	5.99
35	0.30	0.31	0.48	0.44	0.00	1.53	7.77	6.23	5.23	5.99
36	0.24	0.26	0.49	0.64	0.00	1.64	7.77	6.13	5.07	5.99

TABLE 20

DISSOLVED OXYGEN CALCULATED
DP 31 DISCHARGE - 1985 - CANNING SEASON

	DO DEFICIT COMPONENTS (MG/L)							DO (MG/L)		
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
37	0.30	0.24	0.50	0.41	0.00	1.47	7.77	6.30	5.32	5.99
38	0.31	0.30	0.49	0.44	0.00	1.56	7.77	6.20	5.19	5.99
39	0.14	0.34	0.50	0.32	0.00	1.32	7.75	6.43	5.50	5.98
40	0.18	0.28	0.50	0.67	0.00	1.65	7.76	6.11	5.06	5.98
41	0.27	0.22	0.50	0.45	0.00	1.45	7.77	6.31	5.33	5.99
42	0.29	0.31	0.51	0.42	0.00	1.54	7.77	6.22	5.21	5.99
43	0.09	0.34	0.50	0.25	0.00	1.20	7.75	6.55	5.65	5.98
44	0.11	0.26	0.49	0.56	0.00	1.43	7.76	6.32	5.35	5.98
45	0.20	0.24	0.51	0.37	0.00	1.33	7.77	6.43	5.49	5.99
46	0.19	0.31	0.52	0.32	0.00	1.36	7.76	6.40	5.45	5.98
47	0.06	0.32	0.50	0.19	0.00	1.09	7.75	6.66	5.80	5.98
48	0.07	0.24	0.48	0.35	0.00	1.15	7.75	6.60	5.72	5.98
49	0.18	0.21	0.50	0.36	0.00	1.26	7.76	6.49	5.57	5.98
50	0.17	0.30	0.53	0.30	0.00	1.31	7.75	6.44	5.51	5.98
51	0.06	0.28	0.50	0.16	0.00	1.01	7.75	6.73	5.90	5.98
52	0.05	0.23	0.49	0.22	0.00	1.00	7.75	6.74	5.91	5.98
53	0.16	0.19	0.50	0.35	0.00	1.22	7.75	6.53	5.63	5.98
54	0.15	0.25	0.53	0.32	0.00	1.27	7.72	6.45	5.53	5.97
55	0.05	0.26	0.49	0.14	0.00	0.95	7.75	6.79	5.98	5.98
56	0.04	0.22	0.51	0.15	0.00	0.93	7.75	6.81	6.00	5.98
57	0.13	0.20	0.56	0.31	0.00	1.21	7.45	6.23	5.33	5.83
58	0.18	0.29	0.66	0.38	0.00	1.53	7.34	5.80	4.80	5.78
59	0.04	0.20	0.48	0.11	0.00	0.85	7.76	6.90	6.11	5.98
60	0.02	0.17	0.51	0.09	0.00	0.81	7.73	6.92	6.15	5.97
61	0.09	0.14	0.50	0.24	0.00	0.98	7.45	6.46	5.64	5.94
62	0.06	0.10	0.33	0.14	0.00	0.64	8.16	7.51	6.79	6.17
63	0.04	0.19	0.48	0.11	0.00	0.83	7.76	6.93	6.15	5.98
64	0.01	0.15	0.57	0.05	0.00	0.81	7.70	6.89	6.12	5.96
65	0.07	0.12	0.49	0.19	0.00	0.88	7.49	6.60	5.80	5.95
66	0.05	0.10	0.44	0.15	0.00	0.76	7.84	7.08	6.32	6.02
67	0.03	0.22	0.47	0.09	0.00	0.82	7.74	6.92	6.14	5.97
68	0.01	0.18	0.61	0.04	0.00	0.86	7.69	6.83	6.04	5.95
69	0.05	0.10	0.50	0.15	0.00	0.81	7.79	6.97	6.20	6.00
70	0.04	0.13	0.49	0.13	0.00	0.80	7.97	7.17	6.40	6.09
71	0.01	0.30	0.47	0.03	0.00	0.83	7.95	7.12	6.34	6.07
72	0.00	0.27	0.58	0.02	0.00	0.88	7.93	7.05	6.25	6.06

TABLE 20

DISSOLVED OXYGEN CALCULATED
DP 31 DISCHARGE - 1985 - CANNING SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO (MG/L) DO	90TH PERCENTILE DO	DO STANDARD
73	0.03	0.12	0.51	0.09	0.00	0.76	7.81	7.04	6.28	6.01
74	0.01	0.25	0.45	0.05	0.00	0.78	7.91	7.12	6.36	6.06
75	0.00	0.37	0.44	0.01	0.00	0.84	7.93	7.08	6.30	6.06
76	0.01	0.35	0.44	0.03	0.00	0.85	7.89	7.04	6.26	6.05
77	0.00	0.44	0.41	0.02	0.00	0.88	7.91	7.03	6.23	6.06
78	0.00	0.50	0.34	0.01	0.00	0.86	7.93	7.07	6.28	6.07
79	0.00	0.21	0.40	0.00	0.00	0.62	7.93	7.31	6.60	6.07
80	0.00	0.44	0.44	0.02	0.00	0.91	7.91	6.99	6.19	6.05
81	0.00	0.51	0.34	0.01	0.00	0.87	7.93	7.05	6.26	6.06
82	0.00	0.54	0.25	0.01	0.00	0.81	7.95	7.13	6.36	6.07
83	0.00	0.52	0.24	0.01	0.00	0.78	7.95	7.16	6.40	6.07
84	0.00	0.52	0.20	0.00	0.00	0.73	7.95	7.22	6.47	6.08
85	0.00	0.50	0.16	0.00	0.00	0.68	7.96	7.27	6.54	6.08
86	0.00	0.48	0.16	0.00	0.00	0.65	7.96	7.30	6.58	6.09
87	0.00	0.24	0.02	0.00	0.00	0.27	8.09	7.82	7.22	6.14
88	0.00	0.48	0.12	0.00	0.00	0.61	8.12	7.51	6.88	6.15
89	0.00	0.36	0.10	0.00	0.00	0.47	8.12	7.65	6.99	6.15
90	0.00	0.21	0.02	0.00	0.00	0.23	8.13	7.90	7.30	6.16
91	0.00	0.29	0.06	0.00	0.00	0.35	8.14	7.79	7.16	6.16
92	0.00	0.22	0.05	0.00	0.00	0.28	8.13	7.84	7.24	6.16
93	0.00	0.12	0.02	0.00	0.00	0.14	8.10	7.95	7.39	6.19
94	0.00	0.04	0.00	0.00	0.00	0.05	8.21	8.16	7.64	6.20
95	0.00	0.14	0.02	0.00	0.00	0.17	8.20	8.03	7.46	6.19
96	0.00	0.08	0.01	0.00	0.00	0.10	8.20	8.10	7.36	6.19
97	0.00	0.09	0.01	0.00	0.00	0.09	8.10	8.00	7.46	6.19
98	0.00	0.00	0.20	2.03	0.00	2.23	7.46	5.22	3.99	5.94
99	0.00	0.00	0.09	3.24	0.00	3.34	7.46	4.12	2.54	5.94
100	0.00	0.00	0.24	4.52	0.00	4.77	7.46	2.68	0.64	5.94
101	0.00	0.00	0.29	4.87	0.00	5.17	7.46	2.29	0.12	5.94
102	0.00	0.00	0.39	3.79	0.00	4.18	7.46	3.28	1.42	5.94
103	0.00	0.00	1.04	5.73	0.00	6.78	7.08	0.30	0.00	5.66
104	0.00	0.00	0.98	4.62	0.00	5.61	7.08	1.47	0.00	5.56
105	0.00	0.00	0.75	2.48	0.00	3.24	7.17	3.92	2.37	5.70
106	0.00	0.00	0.70	1.91	0.00	2.62	7.17	4.55	3.20	5.70
107	0.00	0.00	0.64	1.63	0.00	2.27	7.17	4.90	3.63	5.70
108	0.00	0.00	0.54	1.50	0.00	2.04	7.26	5.21	4.04	5.74

TABLE 20

DISSOLVED OXYGEN CALCULATED
DP 31 DISCHARGE - 1985 - CANNING SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO (MG/L) DO	90TH PERCENTILE DO	DO STANDARD
109	0.00	0.00	0.48	1.45	0.00	1.93	7.26	5.32	4.19	5.79
110	0.00	0.00	0.44	1.42	0.00	1.86	7.26	5.39	4.28	5.79
111	0.00	0.00	0.40	1.43	0.00	1.84	7.36	5.51	4.41	5.79
112	0.00	0.00	0.37	1.45	0.00	1.83	7.36	5.52	4.42	5.79
113	0.00	0.00	0.85	1.50	0.00	2.34	7.48	5.13	3.87	5.85
114	0.00	0.00	0.64	1.20	0.00	1.85	7.48	5.62	4.51	5.85
115	0.00	0.00	0.48	1.04	0.00	1.54	7.48	5.94	4.94	5.85
116	0.00	0.00	0.43	1.01	0.00	1.46	7.48	6.02	5.04	5.85
117	0.00	0.00	0.40	0.97	0.00	1.38	7.48	6.09	5.14	5.85
118	0.00	0.00	0.05	7.87	0.00	7.93	7.50	-0.42	0.00	5.86
119	0.00	0.00	0.24	4.97	0.00	5.23	7.50	2.26	0.07	5.86
120	0.02	0.00	0.38	1.90	0.00	2.31	7.50	5.19	3.93	5.86
121	0.00	0.00	0.99	0.77	0.00	1.76	7.50	5.74	4.66	5.86
122	0.00	0.00	1.61	1.01	0.00	2.63	7.50	4.87	3.51	5.86
123	0.00	0.00	0.93	0.51	0.00	1.45	7.50	6.05	5.07	5.86
124	0.02	0.00	0.52	0.38	0.00	0.93	7.50	6.57	5.76	5.86
125	0.03	0.00	0.42	0.37	0.00	0.85	7.50	6.65	5.87	5.86
126	0.00	0.00	0.02	5.28	0.00	5.32	7.52	2.20	0.00	5.87
127	0.05	0.00	0.26	1.62	0.00	1.93	7.52	5.59	4.96	5.87
128	0.08	0.02	0.41	1.56	0.00	2.08	7.52	5.44	4.26	5.87
129	0.00	0.00	0.00	6.59	0.00	6.60	7.52	0.92	0.00	5.87
130	0.00	0.00	0.01	6.64	0.00	6.66	7.52	0.86	0.00	5.87
131	0.01	0.00	0.05	6.08	0.00	6.16	7.52	1.36	0.00	5.87
132	0.04	0.01	0.32	4.83	0.00	5.22	7.52	2.30	0.11	5.87
133	0.11	0.03	0.59	2.19	0.00	2.94	7.52	4.58	3.13	5.87
134	0.17	0.04	0.50	1.28	0.00	2.02	7.52	5.50	4.34	5.87
135	0.16	0.04	0.34	0.65	0.00	1.21	7.53	6.32	5.42	5.87
136	0.19	0.05	0.37	0.64	0.00	1.26	7.53	6.26	5.35	5.87
137	0.21	0.07	0.38	0.62	0.00	1.29	7.53	6.23	5.30	5.87
138	0.25	0.09	0.38	0.60	0.00	1.33	7.53	6.20	5.26	5.87
139	0.28	0.10	0.37	0.57	0.00	1.34	7.53	6.18	5.24	5.87
140	0.09	0.02	0.40	0.70	0.00	1.22	7.52	6.29	5.38	5.87
141	0.12	0.03	0.37	0.51	0.00	1.04	7.52	6.47	5.62	5.87

TABLE 21

DISSOLVED OXYGEN CALCULATED
DP 31 DISCHARGE - 1995 - DRY SEASON

	DO DEFICIT COMPONENTS (MG/L)							DO (MG/L)		
									90TH PERCENTILE	
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	DO	DO STANDARD
1	0.00	0.00	0.34	1.43	0.00	1.78	7.47	5.68	4.60	5.84
2	0.00	0.06	0.33	1.14	0.00	1.48	7.47	5.99	5.00	5.85
3	0.01	0.00	0.33	0.86	0.00	1.21	7.48	6.27	5.36	5.85
4	0.01	0.00	0.32	0.72	0.00	1.06	7.49	6.42	5.57	5.85
5	0.02	0.00	0.32	0.66	0.00	1.01	7.49	6.48	5.64	5.86
6	0.03	0.00	0.32	0.63	0.00	1.00	7.50	6.49	5.66	5.86
7	0.04	0.01	0.32	0.50	0.00	0.90	7.51	6.60	5.80	5.86
8	0.06	0.01	0.32	0.47	0.00	0.89	7.51	6.62	5.82	5.87
9	0.10	0.03	0.32	0.44	0.00	0.91	7.64	6.72	5.92	5.93
10	0.10	0.03	0.32	0.44	0.00	0.91	7.64	6.73	5.92	5.93
11	0.13	0.04	0.32	0.46	0.00	0.97	7.64	6.67	5.85	5.93
12	0.13	0.04	0.32	0.46	0.00	0.96	7.64	6.68	5.85	5.93
13	0.17	0.06	0.33	0.48	0.00	1.05	7.65	6.59	5.74	5.93
14	0.16	0.05	0.33	0.47	0.00	1.03	7.65	6.61	5.77	5.93
15	0.14	0.05	0.32	0.43	0.00	0.96	7.64	6.68	5.85	5.93
16	0.19	0.06	0.33	0.52	0.00	1.11	7.65	6.53	5.66	5.93
17	0.19	0.07	0.33	0.49	0.00	1.09	7.65	6.55	5.69	5.93
18	0.17	0.06	0.31	0.45	0.00	1.01	7.65	6.63	5.80	5.93
19	0.20	0.07	0.33	0.54	0.00	1.16	7.65	6.48	5.60	5.93
20	0.22	0.08	0.33	0.51	0.00	1.1[illegible]	7.65	6.49	5.61	5.93
21	0.18	0.06	0.31	0.45	0.00	1.01	7.65	6.63	5.79	5.93
22	0.22	0.08	0.34	0.58	0.00	1.23	7.65	6.41	5.51	5.93
23	0.27	0.11	0.35	0.55	0.00	1.30	7.65	6.35	5.42	5.93
24	0.22	0.08	0.32	0.47	0.00	1.13	7.65	6.51	5.64	5.93
25	0.33	0.13	0.36	0.59	0.00	1.43	7.65	6.22	5.25	5.93
26	0.34	0.14	0.37	0.58	0.00	1.45	7.65	6.19	5.22	5.93
27	0.29	0.12	0.36	0.55	0.00	1.33	7.65	6.31	5.37	5.93
28	0.38	0.17	0.39	0.59	0.00	1.54	7.65	6.11	5.10	5.93
29	0.42	0.20	0.41	0.58	0.00	1.63	7.79	6.16	5.12	6.00
30	0.43	0.25	0.46	0.52	0.00	1.68	7.79	6.10	5.05	6.00
31	0.44	0.25	0.44	0.53	0.00	1.68	7.79	6.11	5.06	6.00
32	0.28	0.22	0.45	0.55	0.00	1.52	7.78	6.25	5.25	5.99
33	0.31	0.27	0.49	0.43	0.00	1.51	7.77	6.25	5.25	5.99
34	0.32	0.30	0.48	0.46	0.00	1.56	7.77	6.20	5.19	5.99
35	0.28	0.31	0.48	0.44	0.00	1.52	7.77	6.24	5.24	5.99
36	0.23	0.26	0.49	0.64	0.00	1.63	7.77	6.14	5.10	5.99

TABLE 21

DISSOLVED OXYGEN CALCULATED
DP 31 DISCHARGE - 1995 - DRY SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L)							DO (MG/L)		
	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
37	0.29	0.24	0.50	0.41	0.00	1.45	7.77	6.31	5.34	5.99
38	0.30	0.30	0.49	0.44	0.00	1.55	7.77	6.22	5.21	5.99
39	0.14	0.34	0.50	0.32	0.00	1.31	7.75	6.44	5.51	5.98
40	0.18	0.28	0.50	0.67	0.00	1.64	7.76	6.12	5.08	5.98
41	0.26	0.22	0.50	0.45	0.00	1.44	7.77	6.32	5.35	5.99
42	0.28	0.31	0.51	0.42	0.00	1.53	7.77	6.23	5.25	5.99
43	0.09	0.34	0.50	0.25	0.00	1.20	7.75	6.55	5.65	5.98
44	0.10	0.26	0.49	0.56	0.00	1.43	7.76	6.33	5.36	5.98
45	0.19	0.24	0.51	0.37	0.00	1.32	7.77	6.44	5.50	5.99
46	0.18	0.31	0.52	0.32	0.00	1.35	7.76	6.41	5.46	5.98
47	0.06	0.32	0.50	0.19	0.00	1.08	7.75	6.66	5.80	5.98
48	0.06	0.24	0.48	0.35	0.00	1.14	7.75	6.60	5.72	5.98
49	0.17	0.21	0.50	0.36	0.00	1.25	7.76	6.50	5.50	5.98
50	0.16	0.30	0.53	0.30	0.00	1.30	7.75	6.45	5.52	5.98
51	0.05	0.29	0.50	0.16	0.00	1.01	7.75	6.74	5.90	5.98
52	0.04	0.23	0.49	0.22	0.00	1.00	7.75	6.74	5.91	5.98
53	0.15	0.19	0.50	0.35	0.00	1.21	7.75	6.54	5.64	5.98
54	0.15	0.25	0.53	0.32	0.00	1.26	7.72	6.46	5.59	5.97
55	0.05	0.26	0.49	0.14	0.00	0.95	7.75	6.80	5.90	5.98
56	0.03	0.22	0.51	0.15	0.00	0.93	7.75	6.81	6.00	5.98
57	0.12	0.20	0.56	0.31	0.00	1.20	7.45	6.24	5.34	5.93
58	0.17	0.29	0.66	0.38	0.00	1.52	7.34	5.81	4.81	5.78
59	0.04	0.20	0.48	0.11	0.00	0.85	7.76	6.90	6.12	5.98
60	0.02	0.17	0.51	0.09	0.00	0.80	7.73	6.93	6.15	5.97
61	0.09	0.14	0.50	0.24	0.00	0.98	7.45	6.47	5.64	5.94
62	0.05	0.10	0.33	0.14	0.00	0.64	8.16	7.52	6.80	6.17
63	0.03	0.19	0.48	0.11	0.00	0.83	7.76	6.93	6.15	5.98
64	0.01	0.15	0.57	0.05	0.00	0.80	7.70	6.89	6.12	5.96
65	0.07	0.12	0.49	0.19	0.00	0.88	7.49	6.60	5.81	5.95
66	0.05	0.10	0.44	0.15	0.00	0.75	7.84	7.08	6.32	6.02
67	0.03	0.22	0.47	0.09	0.00	0.81	7.74	6.92	6.14	5.97
68	0.01	0.18	0.61	0.04	0.00	0.86	7.69	6.83	6.04	5.95
69	0.05	0.10	0.50	0.15	0.00	0.81	7.79	6.97	6.20	6.00
70	0.04	0.13	0.49	0.13	0.00	0.80	7.97	7.17	6.40	6.09
71	0.01	0.30	0.47	0.03	0.00	0.82	7.95	7.12	6.34	6.07
72	0.00	0.27	0.58	0.02	0.00	0.89	7.93	7.04	6.25	6.06

TABLE 21

DISSOLVED OXYGEN CALCULATED
DP 31 DISCHARGE - 1995 - DRY SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L)							DO (MG/L)		
	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
73	0.03	0.12	0.51	0.09	0.00	0.76	7.81	7.04	6.28	6.01
74	0.01	0.25	0.45	0.05	0.00	0.78	7.91	7.12	6.36	6.06
75	0.00	0.37	0.44	0.01	0.00	0.84	7.93	7.08	6.30	6.06
76	0.01	0.35	0.44	0.03	0.00	0.85	7.89	7.04	6.26	6.05
77	0.00	0.44	0.41	0.02	0.00	0.88	7.91	7.03	6.23	6.06
78	0.00	0.50	0.34	0.01	0.00	0.86	7.93	7.07	6.28	6.07
79	0.00	0.21	0.40	0.00	0.00	0.62	7.93	7.31	6.60	6.07
80	0.00	0.44	0.44	0.02	0.00	0.91	7.91	6.99	6.19	6.05
81	0.00	0.51	0.34	0.01	0.00	0.87	7.93	7.05	6.26	6.06
82	0.00	0.54	0.25	0.01	0.00	0.81	7.95	7.13	6.36	6.07
83	0.00	0.52	0.24	0.01	0.00	0.78	7.95	7.16	6.40	6.07
84	0.00	0.52	0.20	0.00	0.00	0.73	7.95	7.22	6.47	6.08
85	0.00	0.50	0.16	0.00	0.00	0.68	7.96	7.27	6.54	6.08
86	0.00	0.49	0.16	0.00	0.00	0.65	7.96	7.30	6.58	6.08
87	0.00	0.24	0.02	0.00	0.00	0.26	8.09	7.82	7.22	6.14
88	0.00	0.48	0.12	0.00	0.00	0.61	8.12	7.51	6.88	6.15
89	0.00	0.36	0.10	0.00	0.00	0.47	8.12	7.65	6.99	6.15
90	0.00	0.21	0.02	0.00	0.00	0.23	8.13	7.89	7.30	6.16
91	0.00	0.28	0.06	0.00	0.00	0.35	8.14	7.79	7.16	6.16
92	0.00	0.22	0.05	0.00	0.00	0.28	8.13	7.85	7.24	6.16
93	0.00	0.12	0.02	0.00	0.00	0.14	8.10	7.95	7.39	6.14
94	0.00	0.04	0.00	0.00	0.00	0.05	8.21	8.16	7.64	6.20
95	0.00	0.14	0.02	0.00	0.00	0.17	8.20	8.03	7.46	6.19
96	0.00	0.08	0.01	0.00	0.00	0.10	8.20	8.10	7.56	6.19
97	0.00	0.08	0.01	0.00	0.00	0.09	8.10	8.00	7.46	6.14
98	0.00	0.00	0.20	2.03	0.00	2.23	7.46	5.22	3.99	5.94
99	0.00	0.00	0.09	3.24	0.00	3.34	7.46	4.12	2.54	5.94
100	0.00	0.00	0.24	4.52	0.00	4.77	7.46	2.68	0.64	5.94
101	0.00	0.00	0.29	4.87	0.00	5.17	7.46	2.29	0.12	5.94
102	0.00	0.00	0.39	3.79	0.00	4.18	7.46	3.28	1.42	5.94
103	0.00	0.00	1.04	5.73	0.00	6.78	7.08	0.30	0.00	5.66
104	0.00	0.00	0.98	4.62	0.00	5.61	7.08	1.47	0.00	5.66
105	0.00	0.00	0.75	2.48	0.00	3.24	7.17	3.92	2.37	5.70
106	0.00	0.00	0.70	1.91	0.00	2.61	7.17	4.55	3.20	5.70
107	0.00	0.00	0.64	1.63	0.00	2.27	7.17	4.89	3.65	5.70
108	0.00	0.00	0.54	1.50	0.00	2.04	7.26	5.21	4.04	5.74

TABLE 21

DISSOLVED OXYGEN CALCULATED
DP 31 DISCHARGE - 1995 - DRY SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOAD	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO (MG/L) DO	90TH PERCENTILE DO	DO STANDARD
109	0.00	0.00	0.48	1.45	0.00	1.93	7.26	5.32	4.19	5.74
110	0.00	0.00	0.44	1.42	0.00	1.86	7.26	5.39	4.28	5.74
111	0.00	0.00	0.40	1.43	0.00	1.84	7.36	5.51	4.41	5.79
112	0.00	0.00	0.37	1.45	0.00	1.83	7.36	5.52	4.43	5.79
113	0.00	0.00	0.83	1.50	0.00	2.34	7.48	5.13	3.87	5.85
114	0.00	0.00	0.64	1.20	0.00	1.85	7.48	5.62	4.51	5.85
115	0.00	0.00	0.48	1.04	0.00	1.53	7.48	5.94	4.94	5.85
116	0.00	0.00	0.43	1.01	0.00	1.46	7.48	6.02	5.04	5.85
117	0.00	0.00	0.40	0.97	0.00	1.38	7.48	6.09	5.14	5.85
118	0.00	0.00	0.05	7.87	0.00	7.93	7.50	-0.42	0.00	5.86
119	0.00	0.00	0.24	4.97	0.00	5.23	7.50	2.26	0.07	5.86
120	0.02	0.00	0.38	1.90	0.00	2.31	7.50	5.19	3.93	5.86
121	0.00	0.00	0.99	0.77	0.00	1.76	7.50	5.74	4.66	5.86
122	0.00	0.00	1.61	1.01	0.00	2.63	7.50	4.87	3.51	5.86
123	0.00	0.00	0.93	0.51	0.00	1.45	7.50	6.05	5.07	5.86
124	0.01	0.00	0.52	0.38	0.00	0.93	7.50	6.57	5.76	5.86
125	0.03	0.00	0.42	0.37	0.00	0.84	7.50	6.65	5.87	5.86
126	0.00	0.00	0.02	5.20	0.00	5.32	7.52	2.20	0.00	5.87
127	0.03	0.00	0.26	1.62	0.00	1.93	7.52	5.59	4.46	5.87
128	0.00	0.02	0.41	1.56	0.00	2.00	7.52	5.44	4.26	5.87
129	0.00	0.00	0.00	6.59	0.00	6.60	7.52	0.92	0.00	5.87
130	0.00	0.00	0.01	6.64	0.00	6.66	7.52	0.86	0.00	5.87
131	0.01	0.00	0.05	6.08	0.00	6.15	7.52	1.36	0.00	5.87
132	0.04	0.01	0.32	4.83	0.00	5.22	7.52	2.30	0.12	5.87
133	0.11	0.03	0.59	2.19	0.00	2.93	7.52	4.59	3.13	5.87
134	0.16	0.05	0.50	1.28	0.00	2.01	7.52	5.51	4.35	5.87
135	0.15	0.04	0.34	0.65	0.00	1.20	7.53	6.32	5.43	5.87
136	0.17	0.05	0.37	0.64	0.00	1.25	7.53	6.27	5.36	5.87
137	0.20	0.07	0.38	0.62	0.00	1.28	7.53	6.24	5.32	5.87
138	0.24	0.09	0.38	0.60	0.00	1.31	7.53	6.21	5.28	5.87
139	0.27	0.10	0.37	0.57	0.00	1.33	7.53	6.20	5.26	5.87
140	0.08	0.02	0.40	0.70	0.00	1.22	7.52	6.29	5.39	5.87
141	0.11	0.03	0.37	0.51	0.00	1.04	7.52	6.48	5.63	5.87

TABLE 22

DISSOLVED OXYGEN CALCULATED
OP 31 DISCHARGE - 1995 - CANNING SEASON

	DO DEFICIT COMPONENTS (MG/L)							DO (MG/L)		
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
1	0.00	0.00	0.34	1.43	0.00	1.78	7.47	5.68	4.59	5.84
2	0.00	0.00	0.33	1.14	0.00	1.48	7.47	5.99	5.00	5.85
3	0.01	0.00	0.33	0.86	0.00	1.21	7.48	6.26	5.36	5.85
4	0.01	0.00	0.32	0.72	0.00	1.06	7.49	6.42	5.56	5.85
5	0.02	0.00	0.32	0.66	0.00	1.02	7.49	6.47	5.63	5.86
6	0.04	0.00	0.32	0.63	0.00	1.01	7.50	6.49	5.65	5.86
7	0.06	0.01	0.32	0.50	0.00	0.91	7.51	6.59	5.79	5.86
8	0.07	0.01	0.32	0.47	0.00	0.90	7.51	6.61	5.81	5.87
9	0.12	0.03	0.32	0.44	0.00	0.93	7.64	6.70	5.89	5.93
10	0.12	0.03	0.32	0.44	0.00	0.92	7.64	6.71	5.90	5.93
11	0.15	0.04	0.32	0.46	0.00	0.99	7.64	6.65	5.82	5.93
12	0.15	0.04	0.32	0.46	0.00	0.98	7.64	6.65	5.82	5.93
13	0.20	0.06	0.33	0.48	0.00	1.08	7.65	6.56	5.70	5.93
14	0.19	0.05	0.33	0.47	0.00	1.06	7.65	6.58	5.73	5.93
15	0.17	0.05	0.32	0.43	0.00	0.99	7.64	6.65	5.82	5.93
16	0.22	0.06	0.33	0.52	0.00	1.15	7.65	6.49	5.61	5.93
17	0.22	0.07	0.33	0.49	0.00	1.12	7.65	6.52	5.65	5.93
18	0.21	0.06	0.31	0.45	0.00	1.04	7.65	6.60	5.76	5.93
19	0.24	0.07	0.33	0.54	0.00	1.20	7.65	6.45	5.55	5.93
20	0.25	0.08	0.33	0.51	0.00	1.19	7.65	6.45	5.56	5.93
21	0.21	0.06	0.31	0.45	0.00	1.05	7.65	6.60	5.75	5.93
22	0.26	0.08	0.34	0.58	0.00	1.27	7.65	6.37	5.45	5.93
23	0.32	0.11	0.35	0.55	0.00	1.35	7.65	6.30	5.35	5.93
24	0.26	0.09	0.32	0.49	0.00	1.17	7.65	6.47	5.58	5.93
25	0.38	0.13	0.36	0.59	0.00	1.49	7.65	6.16	5.17	5.93
26	0.40	0.14	0.37	0.58	0.00	1.51	7.65	6.13	5.14	5.93
27	0.34	0.12	0.36	0.55	0.00	1.39	7.65	6.26	5.30	5.93
28	0.44	0.17	0.39	0.59	0.00	1.61	7.65	6.04	5.01	5.93
29	0.49	0.20	0.41	0.58	0.00	1.70	7.79	6.08	5.02	6.00
30	0.51	0.25	0.46	0.52	0.00	1.76	7.79	6.02	4.95	6.00
31	0.52	0.25	0.44	0.53	0.00	1.76	7.79	6.03	4.95	6.00
32	0.35	0.22	0.45	0.55	0.00	1.57	7.78	6.20	5.18	5.99
33	0.36	0.27	0.49	0.43	0.00	1.57	7.77	6.20	5.18	5.99
34	0.37	0.30	0.48	0.46	0.00	1.62	7.77	6.15	5.12	5.99
35	0.33	0.31	0.48	0.44	0.00	1.57	7.77	6.19	5.18	5.99
36	0.27	0.25	0.49	0.64	0.00	1.67	7.77	6.10	5.05	5.99

TABLE 22

DISSOLVED OXYGEN CALCULATED
DP 31 DISCHARGE - 1995 - CANNING SEASON

	DD DEFICIT COMPONENTS (MG/L)							DO (MG/L)		
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	98TH PERCENTILE DO	DO STANDARD
37	0.34	0.24	0.50	0.41	0.00	1.50	7.77	6.26	5.27	5.99
38	0.35	0.30	0.49	0.44	0.00	1.60	7.77	6.17	5.14	5.99
39	0.16	0.34	0.50	0.32	0.00	1.33	7.75	6.42	5.47	5.98
40	0.21	0.29	0.50	0.67	0.00	1.67	7.76	6.08	5.03	5.98
41	0.30	0.22	0.50	0.45	0.00	1.49	7.77	6.28	5.29	5.99
42	0.33	0.31	0.51	0.42	0.00	1.58	7.77	6.18	5.16	5.99
43	0.10	0.34	0.50	0.25	0.00	1.21	7.75	6.55	5.63	5.98
44	0.12	0.26	0.49	0.56	0.00	1.44	7.76	6.31	5.33	5.98
45	0.23	0.24	0.51	0.37	0.00	1.36	7.77	6.40	5.46	5.99
46	0.21	0.31	0.52	0.32	0.00	1.38	7.76	6.37	5.42	5.98
47	0.07	0.32	0.50	0.19	0.00	1.09	7.75	6.65	5.79	5.98
48	0.07	0.24	0.48	0.35	0.00	1.16	7.75	6.59	5.71	5.98
49	0.20	0.21	0.50	0.36	0.00	1.29	7.76	6.47	5.54	5.99
50	0.19	0.30	0.53	0.30	0.00	1.33	7.75	6.42	5.48	5.98
51	0.06	0.28	0.50	0.16	0.00	1.02	7.75	6.73	5.89	5.98
52	0.05	0.23	0.49	0.22	0.00	1.01	7.75	6.74	5.90	5.98
53	0.18	0.19	0.50	0.35	0.00	1.24	7.75	6.51	5.60	5.98
54	0.17	0.25	0.53	0.32	0.00	1.28	7.72	6.43	5.51	5.97
55	0.05	0.26	0.49	0.14	0.00	0.96	7.75	6.79	5.97	5.98
56	0.04	0.22	0.51	0.15	0.00	0.93	7.75	6.81	5.99	5.98
57	0.15	0.20	0.56	0.31	0.00	1.23	7.45	6.21	5.31	5.83
58	0.20	0.29	0.66	0.38	0.00	1.55	7.34	5.78	4.77	5.78
59	0.04	0.20	0.48	0.11	0.00	0.86	7.76	6.89	6.11	5.98
60	0.03	0.17	0.51	0.09	0.00	0.81	7.73	6.92	6.15	5.97
61	0.10	0.14	0.50	0.24	0.00	1.00	7.45	6.45	5.62	5.94
62	0.06	0.10	0.33	0.14	0.00	0.65	8.16	7.51	6.70	6.17
63	0.04	0.19	0.48	0.11	0.00	0.83	7.76	6.92	6.14	5.98
64	0.02	0.15	0.57	0.05	0.00	0.81	7.70	6.89	6.12	5.96
65	0.08	0.12	0.49	0.19	0.00	0.89	7.49	6.59	5.79	5.95
66	0.06	0.10	0.44	0.15	0.00	0.76	7.84	7.07	6.31	6.02
67	0.03	0.22	0.47	0.09	0.00	0.82	7.74	6.91	6.14	5.97
68	0.01	0.19	0.61	0.04	0.00	0.86	7.69	6.83	6.04	5.95
69	0.05	0.10	0.50	0.15	0.00	0.82	7.79	6.96	6.19	6.00
70	0.05	0.13	0.49	0.13	0.00	0.81	7.97	7.16	6.39	6.09
71	0.01	0.30	0.47	0.03	0.00	0.83	7.95	7.12	6.34	6.07
72	0.00	0.27	0.5[illegible]	0.02	0.00	0.88	7.93	7.04	6.25	6.06

TABLE 22

DISSOLVED OXYGEN CALCULATED
DP 31 DISCHARGE - 1995 - CANNING SEASON

	DO DEFICIT COMPONENTS (MG/L)							DO (MG/L)		
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
73	0.03	0.12	0.51	0.09	0.00	0.77	7.81	7.04	6.28	6.01
74	0.02	0.25	0.45	0.05	0.00	0.79	7.91	7.12	6.35	6.06
75	0.00	0.37	0.44	0.01	0.00	0.84	7.93	7.08	6.30	6.06
76	0.01	0.35	0.44	0.03	0.00	0.85	7.89	7.04	6.25	6.05
77	0.00	0.44	0.41	0.02	0.00	0.88	7.91	7.03	6.23	6.06
78	0.00	0.50	0.34	0.01	0.00	0.86	7.93	7.07	6.28	6.07
79	0.00	0.21	0.40	0.00	0.00	0.62	7.93	7.31	6.60	6.07
80	0.00	0.44	0.44	0.02	0.00	0.91	7.91	6.99	6.19	6.05
81	0.00	0.51	0.34	0.01	0.00	0.87	7.93	7.05	6.26	6.06
82	0.00	0.54	0.25	0.01	0.00	0.81	7.95	7.13	6.36	6.07
83	0.00	0.52	0.24	0.01	0.00	0.78	7.95	7.16	6.40	6.07
84	0.00	0.52	0.20	0.00	0.00	0.73	7.95	7.22	6.47	6.08
85	0.00	0.50	0.16	0.00	0.00	0.68	7.96	7.27	6.54	6.08
86	0.00	0.49	0.16	0.00	0.00	0.65	7.96	7.30	6.58	6.08
87	0.00	0.24	0.02	0.00	0.00	0.27	8.09	7.82	7.22	6.14
88	0.00	0.48	0.12	0.00	0.00	0.61	8.12	7.51	6.80	6.15
89	0.00	0.36	0.10	0.00	0.00	0.47	8.12	7.65	6.99	6.15
90	0.00	0.21	0.02	0.00	0.00	0.23	8.13	7.89	7.30	6.16
91	0.00	0.28	0.06	0.00	0.00	0.35	8.14	7.79	7.16	6.16
92	0.00	0.22	0.05	0.00	0.00	0.28	8.13	7.84	7.24	6.16
93	0.00	0.12	0.02	0.00	0.00	0.14	8.10	7.95	7.39	6.14
94	0.00	0.04	0.00	0.00	0.00	0.05	8.21	8.16	7.64	6.20
95	0.00	0.14	0.02	0.00	0.00	0.17	8.20	8.03	7.46	6.19
96	0.00	0.08	0.01	0.00	0.00	0.10	8.20	8.10	7.56	6.19
97	0.00	0.08	0.01	0.00	0.00	0.09	8.10	8.00	7.46	6.14
98	0.00	0.00	0.20	2.03	0.00	2.23	7.46	5.22	3.99	5.84
99	0.00	0.00	0.09	3.24	0.00	3.34	7.46	4.12	2.54	5.84
100	0.00	0.00	0.24	4.52	0.00	4.78	7.46	2.68	0.64	5.84
101	0.00	0.00	0.29	4.87	0.00	5.17	7.46	2.28	0.12	5.84
102	0.00	0.00	0.39	3.79	0.00	4.18	7.46	3.28	1.42	5.84
103	0.00	0.00	1.04	5.73	0.00	6.78	7.09	0.30	0.00	5.66
104	0.00	0.00	0.98	4.62	0.00	5.61	7.08	1.47	0.00	5.66
105	0.00	0.00	0.75	2.48	0.00	3.24	7.17	3.92	2.37	5.70
106	0.00	0.00	0.70	1.91	0.00	2.62	7.17	4.55	3.20	5.70
107	0.00	0.00	0.64	1.63	0.00	2.27	7.17	4.89	3.65	5.70
108	0.00	0.00	0.54	1.50	0.00	2.04	7.26	5.21	4.04	5.74

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TABLE 22

DISSOLVED OXYGEN CALCULATED
OP 31 DISCHARGE - 1995 - CANNING SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO (MG/L) DO	90TH PERCENTILE DO	DO STANDARD
109	0.00	0.00	0.48	1.45	0.00	1.93	7.26	5.32	4.19	5.74
110	0.00	0.00	0.44	1.42	0.00	1.86	7.26	5.39	4.28	5.74
111	0.00	0.00	0.40	1.43	0.00	1.84	7.36	5.51	4.41	5.79
112	0.00	0.00	0.37	1.45	0.00	1.83	7.36	5.52	4.42	5.79
113	0.00	0.00	0.83	1.50	0.00	2.34	7.48	5.13	3.87	5.85
114	0.00	0.00	0.64	1.20	0.00	1.85	7.48	5.62	4.51	5.85
115	0.00	0.00	0.48	1.04	0.00	1.54	7.48	5.94	4.93	5.85
116	0.00	0.00	0.43	1.01	0.00	1.46	7.48	6.02	5.04	5.85
117	0.00	0.00	0.40	0.97	0.00	1.38	7.48	6.09	5.14	5.85
118	0.00	0.00	0.05	7.87	0.00	7.93	7.50	-0.42	0.00	5.86
119	0.01	0.00	0.24	4.97	0.00	5.24	7.50	2.26	0.07	5.86
120	0.02	0.00	0.38	1.90	0.00	2.31	7.50	5.18	3.93	5.86
121	0.00	0.00	0.99	0.77	0.00	1.76	7.50	5.74	4.66	5.86
122	0.00	0.00	1.61	1.01	0.00	2.63	7.50	4.87	3.51	5.86
123	0.00	0.00	0.93	0.51	0.00	1.45	7.50	6.05	5.07	5.86
124	0.02	0.00	0.52	0.38	0.00	0.93	7.50	6.57	5.76	5.86
125	0.04	0.00	0.42	0.37	0.00	0.85	7.50	6.65	5.86	5.86
126	0.00	0.00	0.02	5.28	0.00	5.32	7.52	2.20	0.00	5.87
127	0.03	0.00	0.26	1.62	0.00	1.93	7.52	5.59	4.45	5.87
128	0.09	0.02	0.41	1.56	0.00	2.09	7.52	5.43	4.24	5.87
129	0.00	0.00	0.00	6.59	0.00	6.60	7.52	0.92	0.00	5.87
130	0.01	0.00	0.01	6.64	0.00	6.66	7.52	0.86	0.00	5.87
131	0.02	0.00	0.05	6.08	0.00	6.16	7.52	1.36	0.00	5.87
132	0.05	0.01	0.32	4.83	0.00	5.23	7.52	2.29	0.11	5.87
133	0.13	0.03	0.59	2.19	0.00	2.95	7.52	4.57	3.11	5.87
134	0.19	0.05	0.50	1.28	0.00	2.04	7.52	5.48	4.31	5.87
135	0.18	0.04	0.34	0.65	0.00	1.23	7.53	6.30	5.39	5.87
136	0.20	0.05	0.37	0.64	0.00	1.28	7.53	6.24	5.32	5.87
137	0.24	0.07	0.38	0.62	0.00	1.32	7.53	6.20	5.27	5.87
138	0.28	0.09	0.38	0.60	0.00	1.36	7.53	6.17	5.22	5.87
139	0.32	0.10	0.37	0.57	0.00	1.38	7.53	6.15	5.19	5.87
140	0.10	0.02	0.40	0.70	0.00	1.23	7.52	6.28	5.37	5.87
141	0.13	0.03	0.37	0.51	0.00	1.06	7.52	6.46	5.60	5.87

TABLE 23

DISSOLVED OXYGEN CALCULATED
OP 31 DISCHARGE - 1985 - WET SEASON

	DO DEFICIT COMPONENTS (MG/L)							DO (MG/L)		
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
1	0.00	0.00	0.41	0.92	0.18	1.53	9.28	7.74	6.74	6.70
2	0.00	0.00	0.39	0.76	0.12	1.30	9.20	7.90	6.97	6.67
3	0.01	0.00	0.40	0.59	0.08	1.09	9.15	8.06	7.19	6.65
4	0.01	0.00	0.39	0.50	0.06	0.98	9.12	8.14	7.31	6.63
5	0.02	0.00	0.38	0.46	0.04	0.94	9.09	8.15	7.33	6.61
6	0.04	0.01	0.39	0.44	0.04	0.93	9.06	8.13	7.32	6.60
7	0.05	0.02	0.39	0.36	0.03	0.87	9.04	8.16	7.37	6.59
8	0.07	0.02	0.39	0.35	0.03	0.87	9.03	9.16	7.37	6.59
9	0.10	0.04	0.39	0.33	0.03	0.91	9.21	8.30	7.49	6.67
10	0.10	0.04	0.39	0.33	0.03	0.90	9.21	8.31	7.51	6.67
11	0.13	0.05	0.39	0.34	0.03	0.95	9.20	8.25	7.43	6.67
12	0.12	0.05	0.39	0.33	0.03	0.94	9.20	8.26	7.44	6.67
13	0.16	0.07	0.39	0.33	0.03	1.00	9.19	8.18	7.35	6.66
14	0.16	0.07	0.39	0.33	0.03	0.99	9.19	8.20	7.36	6.66
15	0.14	0.06	0.38	0.31	0.03	0.94	9.19	8.25	7.43	6.66
16	0.17	0.08	0.40	0.35	0.03	1.05	9.19	8.13	7.28	6.66
17	0.18	0.08	0.39	0.34	0.03	1.04	9.19	8.15	7.30	6.66
18	0.16	0.08	0.38	0.31	0.03	0.98	9.19	8.21	7.38	6.66
19	0.19	0.09	0.40	0.36	0.03	1.09	9.19	8.09	7.23	6.66
20	0.20	0.09	0.39	0.35	0.03	1.09	9.19	8.10	7.23	6.66
21	0.16	0.08	0.38	0.31	0.03	0.98	9.19	8.20	7.38	6.66
22	0.20	0.10	0.40	0.38	0.03	1.14	9.19	8.04	7.17	6.66
23	0.24	0.13	0.42	0.37	0.04	1.21	9.18	7.97	7.07	6.66
24	0.20	0.10	0.39	0.34	0.03	1.08	9.19	8.11	7.25	6.66
25	0.28	0.15	0.43	0.39	0.04	1.31	9.18	7.86	6.93	6.66
26	0.29	0.16	0.44	0.38	0.04	1.34	9.18	7.84	6.90	6.66
27	0.25	0.13	0.43	0.37	0.04	1.24	9.18	7.94	7.03	6.66
28	0.32	0.19	0.46	0.39	0.04	1.41	9.17	7.76	6.80	6.66
29	0.35	0.22	0.48	0.37	0.04	1.49	9.38	7.89	6.90	6.75
30	0.36	0.27	0.53	0.33	0.04	1.55	9.36	7.81	6.79	6.75
31	0.37	0.27	0.52	0.33	0.04	1.55	9.37	7.82	6.81	6.75
32	0.25	0.25	0.53	0.34	0.04	1.42	9.34	7.92	6.95	6.73
33	0.26	0.29	0.56	0.27	0.03	1.44	9.34	7.89	6.91	6.73
34	0.27	0.31	0.55	0.29	0.03	1.48	9.34	7.86	6.87	6.73
35	0.24	0.33	0.55	0.27	0.03	1.44	9.33	7.88	6.91	6.73
36	0.20	0.29	0.57	0.38	0.04	1.49	9.33	7.93	6.84	6.73

TABLE 23

DISSOLVED OXYGEN CALCULATED
DP 31 DISCHARGE - 1985 - WET SEASON
DO DEFICIT COMPONENTS (MG/L)

SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO (MG/L) DO	DO (MG/L) 90TH PERCENTILE DO	DO (MG/L) 90TH PERCENTILE DO STANDARD
37	0.25	0.26	0.58	0.26	0.03	1.40	9.34	7.93	6.97	6.73
38	0.26	0.32	0.57	0.28	0.03	1.47	9.33	7.86	6.87	6.73
39	0.12	0.36	0.57	0.20	0.03	1.30	9.30	8.00	7.07	6.72
40	0.16	0.31	0.58	0.39	0.04	1.50	9.31	7.81	6.82	6.72
41	0.23	0.24	0.58	0.27	0.03	1.38	9.34	7.95	7.00	6.73
42	0.24	0.32	0.59	0.26	0.03	1.47	9.33	7.86	6.87	6.73
43	0.08	0.36	0.58	0.16	0.02	1.22	9.30	8.07	7.17	6.71
44	0.10	0.28	0.57	0.33	0.03	1.34	9.30	7.96	7.02	6.72
45	0.17	0.26	0.59	0.23	0.03	1.30	9.32	8.02	7.09	6.73
46	0.16	0.33	0.60	0.20	0.03	1.33	9.31	7.97	7.03	6.72
47	0.06	0.34	0.57	0.12	0.02	1.14	9.29	8.15	7.27	6.71
48	0.06	0.26	0.57	0.21	0.03	1.15	9.30	8.14	7.26	6.71
49	0.16	0.24	0.58	0.22	0.02	1.24	9.32	8.08	7.17	6.73
50	0.14	0.32	0.60	0.19	0.02	1.30	9.31	8.00	7.07	6.72
51	0.06	0.31	0.57	0.11	0.02	1.08	9.29	8.20	7.34	6.71
52	0.05	0.26	0.58	0.14	0.03	1.07	9.29	8.22	7.36	6.71
53	0.14	0.22	0.58	0.22	0.02	1.20	9.32	8.11	7.22	6.72
54	0.13	0.28	0.61	0.20	0.02	1.27	9.28	8.01	7.09	6.71
55	0.05	0.28	0.57	0.10	0.02	1.03	9.29	8.25	7.41	6.71
56	0.04	0.25	0.59	0.10	0.03	1.03	9.28	8.25	7.41	6.71
57	0.12	0.24	0.66	0.20	0.02	1.26	8.99	7.72	6.80	6.57
58	0.16	0.33	0.76	0.29	0.03	1.54	8.87	7.32	6.32	6.51
59	0.04	0.24	0.55	0.08	0.01	0.95	9.29	8.34	7.52	6.71
60	0.03	0.20	0.59	0.06	0.02	0.92	9.26	8.33	7.52	6.70
61	0.09	0.18	0.60	0.16	0.02	1.07	9.01	7.93	7.07	6.58
62	0.06	0.12	0.38	0.10	0.01	0.68	9.77	9.09	8.36	6.94
63	0.04	0.23	0.55	0.08	0.01	0.93	9.30	8.37	7.56	6.71
64	0.07	0.19	0.66	0.04	0.01	0.94	9.22	8.27	7.46	6.67
65	0.08	0.15	0.58	0.14	0.02	0.99	9.04	8.05	7.22	6.59
66	0.06	0.13	0.51	0.11	0.01	0.84	9.43	8.59	7.81	6.78
67	0.03	0.26	0.53	0.06	0.01	0.91	9.26	8.34	7.53	6.69
68	0.01	0.22	0.69	0.03	0.01	0.99	9.19	8.20	7.37	6.66
69	0.06	0.14	0.58	0.11	0.02	0.92	9.08	8.15	7.34	6.61
70	0.05	0.17	0.55	0.10	0.01	0.90	9.25	8.35	7.55	6.59
71	0.01	0.33	0.53	0.03	0.00	0.92	9.14	8.21	7.40	6.54
72	0.00	0.31	0.64	0.01	0.00	0.99	9.12	8.13	7.30	6.63

TABLE 23

DISSOLVED OXYGEN CALCULATED
DP 31 DISCHARGE - 1985 - WET SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L)							DO (MG/L)		
	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
73	0.04	0.15	0.58	0.07	0.01	0.87	9.09	8.22	7.42	6.62
74	0.02	0.28	0.51	0.05	0.01	0.89	9.11	8.22	7.42	6.63
75	0.00	0.40	0.49	0.01	0.00	0.93	9.10	8.16	7.35	6.62
76	0.01	0.36	0.50	0.03	0.00	0.92	9.07	8.14	7.34	6.61
77	0.01	0.45	0.45	0.02	0.00	0.95	9.07	8.12	7.30	6.60
78	0.00	0.51	0.37	0.01	0.00	0.91	9.06	8.14	7.34	6.60
79	0.00	0.23	0.45	0.00	0.00	0.70	9.06	8.35	7.62	6.60
80	0.01	0.44	0.48	0.02	0.00	0.97	9.07	8.09	7.26	6.60
81	0.00	0.50	0.38	0.01	0.00	0.92	9.06	8.14	7.33	6.60
82	0.00	0.53	0.28	0.01	0.00	0.84	9.05	8.21	7.43	6.60
83	0.00	0.51	0.27	0.01	0.00	0.81	9.05	8.24	7.47	6.60
84	0.00	0.50	0.22	0.00	0.00	0.74	9.05	8.30	7.55	6.60
85	0.00	0.48	0.19	0.00	0.00	0.69	9.05	8.36	7.62	6.60
86	0.00	0.46	0.18	0.00	0.00	0.66	9.05	8.38	7.65	6.59
87	0.00	0.25	0.02	0.00	0.00	0.28	9.27	8.99	8.38	6.70
88	0.00	0.48	0.13	0.00	0.00	0.61	9.26	8.65	7.94	6.70
89	0.00	0.35	0.11	0.00	0.00	0.47	9.25	8.77	8.10	6.69
90	0.00	0.22	0.02	0.00	0.00	0.25	9.27	9.02	8.43	6.70
91	0.00	0.27	0.07	0.00	0.00	0.35	9.27	8.92	8.30	6.70
92	0.00	0.21	0.05	0.00	0.00	0.28	9.24	8.95	8.35	6.69
93	0.00	0.12	0.02	0.00	0.00	0.15	9.17	9.01	8.45	6.65
94	0.00	0.04	0.01	0.00	0.00	0.05	9.07	9.02	8.49	6.61
95	0.00	0.12	0.02	0.00	0.00	0.15	9.35	9.20	8.64	6.74
96	0.00	0.08	0.01	0.00	0.00	0.09	9.34	9.24	8.69	6.73
97	0.00	0.09	0.01	0.00	0.00	0.11	9.17	9.06	8.51	6.65
98	0.00	0.00	0.06	0.00	0.45	0.52	10.36	9.84	9.16	7.22
99	0.00	0.00	0.06	0.14	0.82	1.03	10.31	9.27	8.43	7.19
100	0.00	0.00	0.22	1.15	0.94	2.32	9.99	7.66	6.41	7.04
101	0.00	0.00	0.31	2.07	0.71	3.11	9.68	6.57	5.06	6.90
102	0.00	0.00	0.44	2.04	0.40	2.91	9.43	6.52	5.08	6.78
103	0.00	0.00	0.16	0.19	0.36	0.72	9.07	8.34	7.60	6.61
104	0.00	0.00	0.36	0.49	0.68	1.54	9.22	7.68	6.67	6.58
105	0.00	0.00	0.57	0.71	0.67	1.96	9.16	7.20	6.06	6.65
106	0.00	0.00	0.72	0.81	0.58	2.12	9.13	7.00	5.81	6.53
107	0.00	0.00	0.73	0.81	0.50	2.04	9.22	7.17	6.00	6.58
108	0.00	0.00	0.63	0.81	0.43	1.89	9.15	7.26	6.14	6.54

TABLE 23

DISSOLVED OXYGEN CALCULATED
DP 31 DISCHARGE - 1985 - WET SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L)						SATURATION LEVEL	DO (MG/L)		
	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT		DO	90TH PERCENTILE DO	DO STANDARD
109	0.00	0.00	0.57	0.83	0.38	1.79	9.28	7.48	6.40	6.71
110	0.00	0.00	0.53	0.85	0.32	1.71	9.21	7.50	6.44	6.67
111	0.00	0.00	0.48	0.89	0.26	1.65	9.15	7.50	6.46	6.64
112	0.00	0.00	0.44	0.92	0.21	1.60	9.11	7.51	6.48	6.62
113	0.00	0.00	0.75	0.61	0.34	1.72	9.58	7.86	6.80	6.95
114	0.00	0.00	0.70	0.65	0.26	1.63	9.35	7.71	6.67	6.74
115	0.00	0.00	0.56	0.65	0.18	1.40	9.24	7.83	6.87	6.69
116	0.00	0.00	0.51	0.65	0.15	1.33	9.20	7.87	6.93	6.57
117	0.01	0.00	0.47	0.64	0.12	1.25	9.18	7.93	7.01	6.66
118	0.00	0.00	0.05	6.88	0.67	7.61	9.61	1.99	0.00	6.86
119	0.01	0.03	0.28	2.84	0.24	3.39	9.27	5.88	4.28	6.70
120	0.02	0.00	0.45	1.16	0.09	1.74	9.12	7.37	6.30	6.63
121	0.00	0.00	1.03	0.30	0.76	2.10	10.08	7.98	6.79	7.08
122	0.00	0.00	1.87	0.61	0.39	2.89	9.69	6.80	5.36	6.90
123	0.00	0.00	1.14	0.39	0.20	1.75	9.45	7.70	6.63	6.79
124	0.02	0.00	0.64	0.32	0.10	1.10	9.23	8.12	7.26	6.68
125	0.04	0.01	0.51	0.29	0.05	0.91	9.10	8.19	7.39	6.62
126	0.00	0.00	0.02	2.46	0.60	3.09	9.73	6.64	5.13	6.92
127	0.03	0.01	0.30	1.07	0.14	1.58	9.14	7.56	6.54	6.64
128	0.08	0.03	0.48	0.96	0.05	1.61	9.02	7.41	6.38	6.58
129	0.00	0.00	0.00	1.23	0.75	1.99	10.27	8.28	7.13	7.18
130	0.00	0.00	0.00	4.36	0.63	5.0[illegible]	9.85	4.83	2.71	6.97
131	0.01	0.00	0.06	5.84	0.32	6.24	9.47	3.23	0.72	6.80
132	0.04	0.01	0.37	2.76	0.10	3.30	9.16	5.85	4.28	6.65
133	0.10	0.05	0.67	1.24	0.05	2.12	9.03	6.91	5.72	6.59
134	0.15	0.07	0.58	0.74	0.04	1.60	9.01	7.40	6.38	6.57
135	0.14	0.05	0.40	0.39	0.10	1.11	9.04	7.93	7.06	6.59
136	0.16	0.06	0.44	0.40	0.09	1.16	9.02	7.85	6.97	6.59
137	0.19	0.08	0.45	0.39	0.07	1.20	9.00	7.80	6.91	6.57
138	0.22	0.10	0.44	0.39	0.06	1.23	8.99	7.76	6.86	6.57
139	0.24	0.12	0.43	0.38	0.05	1.24	8.99	7.74	6.83	6.57
140	0.08	0.03	0.45	0.40	0.10	1.09	9.08	7.99	7.13	6.51
141	0.11	0.05	0.4[illegible]	0.33	0.05	0.99	9.02	8.02	7.19	6.59

TABLE 24

DISSOLVED OXYGEN CALCULATED
DP 31 DISCHARGE - 1995 - WET SEASON
DO DEFICIT COMPONENTS (MG/L)

								DO (MG/L)		
									90TH PERCENTILE	
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	DO	DO STANDARD
1	0.00	0.00	0.41	0.92	0.18	1.53	9.28	7.74	6.74	6.70
2	0.01	0.00	0.39	0.76	0.12	1.30	9.20	7.90	6.97	6.67
3	0.01	0.00	0.40	0.59	0.08	1.09	9.15	8.06	7.19	6.55
4	0.02	0.00	0.39	0.50	0.06	0.98	9.12	8.13	7.31	6.63
5	0.03	0.00	0.38	0.46	0.04	0.94	9.09	8.14	7.33	6.61
6	0.04	0.01	0.39	0.44	0.04	0.94	9.06	8.12	7.31	6.50
7	0.06	0.02	0.39	0.36	0.03	0.88	9.04	8.15	7.36	6.59
8	0.08	0.02	0.39	0.35	0.03	0.88	9.03	8.15	7.35	6.59
9	0.12	0.04	0.39	0.33	0.03	0.93	9.21	8.28	7.47	6.67
10	0.12	0.04	0.39	0.33	0.03	0.92	9.21	8.29	7.49	6.67
11	0.15	0.05	0.39	0.34	0.03	0.97	9.20	8.23	7.41	6.67
12	0.15	0.05	0.39	0.33	0.03	0.96	9.20	8.23	7.41	6.57
13	0.19	0.07	0.39	0.33	0.03	1.03	9.19	8.15	7.31	6.66
14	0.18	0.07	0.39	0.33	0.03	1.02	9.19	8.17	7.33	6.66
15	0.17	0.06	0.38	0.31	0.03	0.97	9.19	8.22	7.40	6.66
16	0.20	0.05	0.40	0.35	0.03	1.08	9.19	8.10	7.24	6.66
17	0.21	0.08	0.39	0.34	0.03	1.07	9.19	8.12	7.26	6.66
18	0.19	0.08	0.38	0.31	0.03	1.00	9.19	8.18	7.35	6.66
19	0.22	0.09	0.40	0.36	0.03	1.12	9.19	8.06	7.19	6.66
20	0.23	0.09	0.39	0.35	0.03	1.12	9.19	8.06	7.19	6.66
21	0.19	0.08	0.38	0.31	0.03	1.01	9.19	8.18	7.34	6.66
22	0.24	0.10	0.40	0.38	0.03	1.17	9.19	8.01	7.12	6.56
23	0.28	0.13	0.42	0.37	0.04	1.25	9.18	7.93	7.02	6.66
24	0.23	0.10	0.39	0.34	0.03	1.11	9.19	8.07	7.20	6.56
25	0.33	0.15	0.43	0.39	0.04	1.36	9.18	7.81	6.86	6.56
26	0.34	0.16	0.44	0.38	0.04	1.39	9.18	7.79	6.83	6.66
27	0.30	0.13	0.43	0.37	0.04	1.2[illegible]	9.18	7.89	6.97	6.66
28	0.37	0.19	0.46	0.39	0.04	1.46	9.17	7.71	6.72	6.66
29	0.41	0.22	0.48	0.37	0.04	1.55	9.38	7.83	6.82	6.75
30	0.43	0.27	0.53	0.33	0.04	1.62	9.36	7.74	6.71	6.75
31	0.43	0.27	0.52	0.33	0.04	1.61	9.37	7.75	6.72	6.75
32	0.29	0.25	0.53	0.34	0.04	1.46	9.34	7.88	6.90	6.73
33	0.31	0.29	0.56	0.27	0.03	1.49	9.34	7.84	6.85	6.73
34	0.31	0.31	0.55	0.29	0.03	1.52	9.34	7.81	6.81	6.73
35	0.28	0.33	0.55	0.27	0.03	1.48	9.33	7.84	6.95	6.73
36	0.24	0.29	0.57	0.38	0.04	1.53	9.33	7.80	6.79	6.73

TABLE 24

DISSOLVED OXYGEN CALCULATED
DP 31 DISCHARGE - 1995 - WET SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L) SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO (MG/L) DO	90TH PERCENTILE DO	DO STANDARD
37	0.29	0.26	0.58	0.26	0.03	1.45	9.34	7.89	6.91	6.73
38	0.30	0.32	0.57	0.28	0.03	1.51	9.33	7.81	6.82	6.73
39	0.14	0.36	0.57	0.20	0.03	1.32	9.30	7.98	7.04	6.72
40	0.19	0.31	0.58	0.39	0.04	1.53	9.31	7.78	6.78	6.72
41	0.26	0.24	0.58	0.27	0.03	1.42	9.34	7.92	6.95	6.73
42	0.28	0.32	0.59	0.26	0.03	1.51	9.33	7.82	6.82	6.73
43	0.10	0.36	0.58	0.16	0.02	1.23	9.30	8.06	7.15	6.71
44	0.12	0.28	0.57	0.33	0.03	1.36	9.30	7.94	7.00	6.72
45	0.20	0.26	0.59	0.23	0.03	1.33	9.32	7.99	7.05	6.73
46	0.19	0.33	0.60	0.20	0.03	1.36	9.31	7.95	7.00	6.72
47	0.07	0.34	0.57	0.12	0.02	1.15	9.29	8.14	7.26	6.71
48	0.08	0.26	0.57	0.21	0.03	1.16	9.30	8.13	7.24	6.71
49	0.18	0.24	0.58	0.22	0.02	1.27	9.32	8.05	7.13	6.73
50	0.17	0.32	0.60	0.19	0.02	1.33	9.31	7.98	7.04	6.72
51	0.07	0.31	0.57	0.11	0.02	1.09	9.29	8.19	7.33	6.71
52	0.06	0.26	0.58	0.14	0.03	1.08	9.29	8.21	7.35	6.71
53	0.17	0.22	0.58	0.22	0.02	1.22	9.32	8.09	7.18	6.72
54	0.16	0.28	0.61	0.20	0.02	1.29	9.28	7.99	7.06	6.71
55	0.06	0.28	0.57	0.10	0.02	1.04	9.29	8.24	7.40	6.71
56	0.05	0.25	0.59	0.10	0.03	1.04	9.28	8.24	7.40	6.71
57	0.14	0.24	0.66	0.20	0.02	1.29	8.99	7.70	6.77	6.57
58	0.19	0.33	0.76	0.24	0.03	1.57	8.87	7.30	6.28	6.51
59	0.05	0.24	0.55	0.08	0.01	0.96	9.29	8.33	7.51	6.71
60	0.03	0.20	0.59	0.06	0.02	0.93	9.26	8.33	7.51	6.70
61	0.11	0.18	0.60	0.16	0.02	1.09	9.01	7.91	7.05	6.58
62	0.07	0.12	0.38	0.10	0.01	0.69	9.77	9.08	8.35	6.94
63	0.05	0.23	0.55	0.08	0.01	0.93	9.30	8.36	7.55	6.71
64	0.02	0.19	0.66	0.04	0.01	0.94	9.22	8.27	7.45	6.67
65	0.09	0.15	0.58	0.14	0.02	1.00	9.04	8.03	7.20	6.59
66	0.07	0.13	0.51	0.11	0.01	0.85	9.43	8.58	7.79	6.78
67	0.04	0.26	0.53	0.06	0.01	0.92	9.26	8.33	7.52	6.69
68	0.02	0.22	0.69	0.03	0.01	0.99	9.19	8.20	7.37	6.66
69	0.07	0.14	0.58	0.11	0.02	0.93	9.08	8.14	7.33	6.61
70	0.06	0.17	0.55	0.10	0.01	0.91	9.25	8.34	7.54	6.59
71	0.01	0.33	0.53	0.03	0.00	0.93	9.14	8.21	7.40	6.64
72	0.01	0.31	0.64	0.01	0.00	0.99	9.12	8.13	7.30	6.53

TABLE 24

DISSOLVED OXYGEN CALCULATED
DP 31 DISCHARGE - 1995 - WET SEASON

	DO DEFICIT COMPONENTS (MG/L)							DO (MG/L)		
SEGMENT	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT	SATURATION LEVEL	DO	90TH PERCENTILE DO	DO STANDARD
73	0.04	0.15	0.58	0.07	0.01	0.88	9.09	8.21	7.42	6.62
74	0.02	0.28	0.51	0.05	0.01	0.89	9.11	8.21	7.42	6.63
75	0.00	0.40	0.49	0.01	0.00	0.93	9.10	8.16	7.35	6.62
76	0.01	0.36	0.50	0.03	0.00	0.92	9.07	8.14	7.33	6.61
77	0.01	0.45	0.45	0.02	0.00	0.95	9.07	8.11	7.30	6.60
78	0.00	0.51	0.37	0.01	0.00	0.91	9.06	8.14	7.33	6.60
79	0.00	0.23	0.45	0.00	0.00	0.70	9.06	8.35	7.62	6.50
80	0.01	0.44	0.48	0.02	0.00	0.98	9.07	8.08	7.26	6.60
81	0.01	0.50	0.38	0.01	0.00	0.92	9.06	8.14	7.33	6.50
82	0.00	0.53	0.28	0.01	0.00	0.84	9.05	8.21	7.43	6.60
83	0.00	0.51	0.27	0.01	0.00	0.81	9.05	8.24	7.47	6.60
84	0.00	0.50	0.22	0.00	0.00	0.74	9.05	8.30	7.55	6.60
85	0.00	0.48	0.19	0.00	0.00	0.69	9.05	8.36	7.62	6.60
86	0.00	0.46	0.18	0.00	0.00	0.66	9.05	8.38	7.65	6.59
87	0.00	0.25	0.02	0.00	0.00	0.28	9.27	8.99	8.38	6.70
88	0.00	0.45	0.13	0.00	0.00	0.61	9.26	8.65	7.94	6.70
89	0.00	0.35	0.11	0.00	0.00	0.47	9.25	8.77	8.10	6.69
90	0.00	0.22	0.02	0.00	0.00	0.25	9.27	9.02	8.42	6.70
91	0.00	0.27	0.07	0.00	0.00	0.35	9.27	8.92	8.30	6.70
92	0.00	0.21	0.05	0.00	0.00	0.28	9.24	8.95	8.35	6.69
93	0.00	0.12	0.02	0.00	0.00	0.15	9.17	9.01	8.45	6.65
94	0.00	0.04	0.01	0.00	0.00	0.05	9.07	9.02	8.49	6.61
95	0.00	0.12	0.02	0.00	0.00	0.15	9.35	9.20	8.64	6.74
96	0.00	0.08	0.01	0.00	0.00	0.09	9.34	9.24	8.69	6.73
97	0.00	0.09	0.01	0.00	0.00	0.11	9.17	9.06	8.51	6.65
98	0.00	0.00	0.06	0.00	0.45	0.52	10.36	9.84	9.16	7.22
99	0.00	0.00	0.06	0.14	0.82	1.03	10.31	9.27	8.43	7.19
100	0.00	0.00	0.22	1.15	0.94	2.32	9.99	7.66	6.41	7.04
101	0.00	0.00	0.31	2.07	0.71	3.11	9.68	6.57	5.06	6.90
102	0.00	0.00	0.44	2.04	0.40	2.91	9.43	6.52	5.08	6.78
103	0.00	0.00	0.16	0.19	0.36	0.72	9.07	8.34	7.60	6.61
104	0.00	0.00	0.36	0.49	0.68	1.54	9.22	7.68	6.67	6.68
105	0.00	0.00	0.57	0.71	0.67	1.96	9.16	7.20	6.06	6.65
106	0.00	0.00	0.72	0.81	0.58	2.12	9.13	7.00	5.81	6.63
107	0.00	0.00	0.73	0.81	0.50	2.04	9.22	7.17	6.00	6.69
108	0.00	0.00	0.63	0.81	0.43	1.84	9.15	7.26	6.14	6.54

TABLE 24

DISSOLVED OXYGEN CALCULATED
DP 31 DISCHARGE - 1995 - WET SEASON

SEGMENT	DO DEFICIT COMPONENTS (MG/L)						SATURATION LEVEL	DO (MG/L)		
	SOUTH BAY DISCHARGERS	OTHER DISCHARGERS	BOTTOM DEMAND	SWAMP LOADS	URBAN RUNOFF	TOTAL DEFICIT		DO	90TH PERCENTILE DO	DO STANDARD
109	0.00	0.00	0.57	0.83	0.38	1.79	9.28	7.48	6.40	6.71
110	0.00	0.00	0.53	0.85	0.32	1.71	9.21	7.50	6.44	6.67
111	0.00	0.00	0.48	0.89	0.26	1.65	9.15	7.50	6.46	6.64
112	0.00	0.00	0.44	0.92	0.21	1.60	9.11	7.50	6.48	6.62
113	0.00	0.00	0.75	0.61	0.34	1.72	9.58	7.86	6.80	6.95
114	0.00	0.00	0.70	0.65	0.26	1.63	9.35	7.71	6.67	6.74
115	0.00	0.00	0.56	0.65	0.18	1.41	9.24	7.83	6.87	6.69
116	0.01	0.00	0.51	0.65	0.15	1.33	9.20	7.87	6.93	6.67
117	0.01	0.00	0.47	0.64	0.12	1.25	9.18	7.93	7.01	6.66
118	0.00	0.00	0.05	6.88	0.67	7.61	9.61	1.99	0.00	6.86
119	0.01	0.00	0.28	2.84	0.24	3.39	9.27	5.87	4.28	6.70
120	0.03	0.00	0.45	1.16	0.09	1.75	9.12	7.37	6.29	6.63
121	0.00	0.00	1.03	0.30	0.76	2.10	10.08	7.98	6.79	7.09
122	0.00	0.00	1.87	0.61	0.39	2.89	9.69	6.80	5.36	6.90
123	0.00	0.00	1.14	0.39	0.20	1.75	9.45	7.70	6.62	6.79
124	0.02	0.00	0.64	0.32	0.10	1.11	9.23	8.12	7.25	6.68
125	0.04	0.01	0.51	0.29	0.05	0.92	9.10	8.18	7.38	6.62
126	0.00	0.00	0.02	2.46	0.60	3.09	9.73	6.63	5.13	6.92
127	0.04	0.01	0.30	1.07	0.14	1.58	9.14	7.55	6.53	6.64
128	0.09	0.03	0.48	0.96	0.05	1.63	9.02	7.39	6.36	6.58
129	0.00	0.00	0.00	1.23	0.75	1.99	10.27	8.28	7.13	7.18
130	0.00	0.00	0.00	4.36	0.63	5.01	9.85	4.83	2.71	6.97
131	0.01	0.00	0.06	5.84	0.32	6.24	9.47	3.23	0.72	6.80
132	0.05	0.01	0.37	2.76	0.10	3.31	9.16	5.84	4.27	6.65
133	0.12	0.05	0.67	1.24	0.05	2.14	9.03	6.89	5.70	6.59
134	0.18	0.07	0.58	0.74	0.04	1.62	9.01	7.38	6.35	6.57
135	0.16	0.05	0.40	0.39	0.10	1.13	9.04	7.90	7.03	6.59
136	0.19	0.06	0.44	0.40	0.09	1.19	9.02	7.83	6.93	6.58
137	0.22	0.05	0.45	0.39	0.07	1.23	9.00	7.77	6.86	6.57
138	0.25	0.10	0.44	0.39	0.06	1.26	8.99	7.73	6.81	6.57
139	0.28	0.12	0.43	0.38	0.05	1.28	8.99	7.70	6.78	6.57
140	0.09	0.03	0.45	0.40	0.10	1.10	9.08	7.97	7.11	6.61
141	0.13	0.05	0.43	0.33	0.05	1.01	9.02	8.00	7.16	6.58

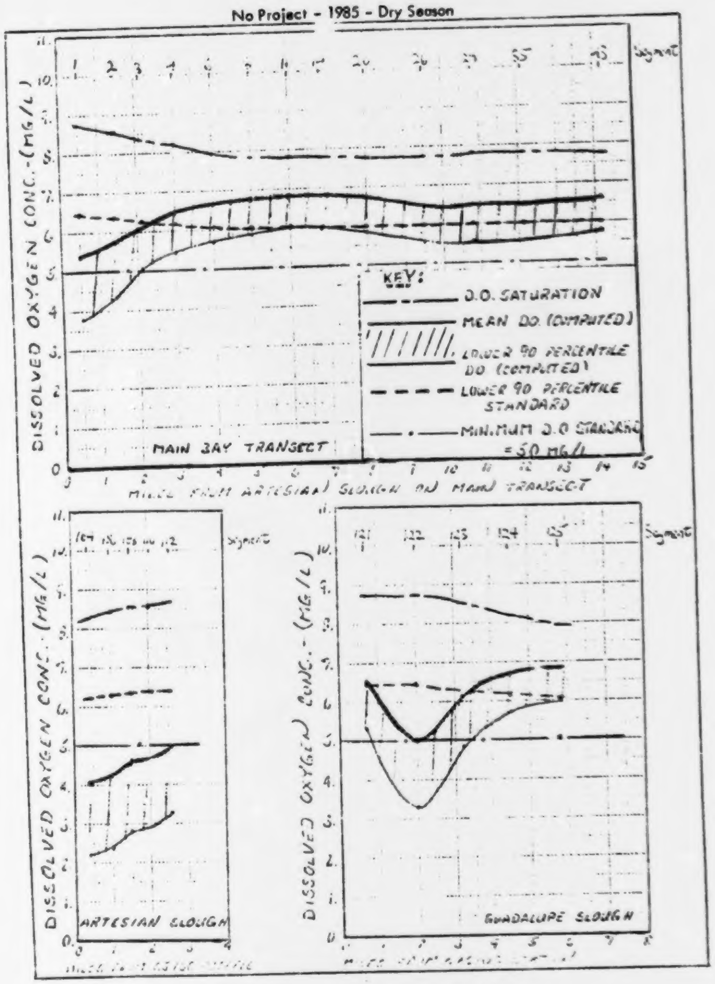
No Project - 1985 - Dry Season

Figure D.1 Water Quality Model Results

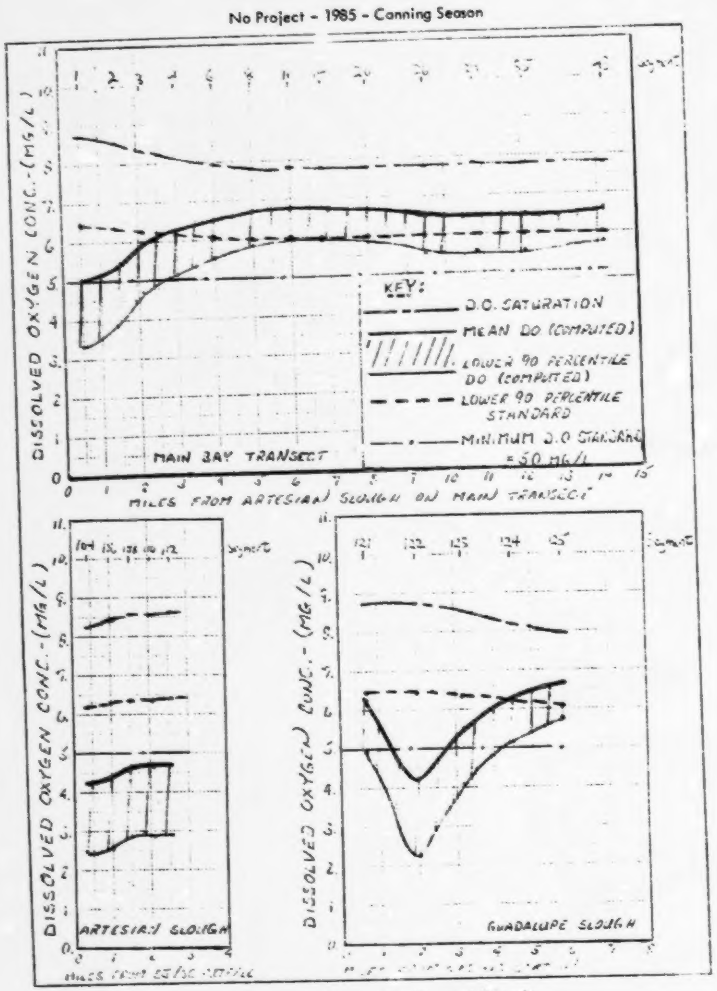
No Project - 1985 - Canning Season

Figure D.2 Water Quality Model Results

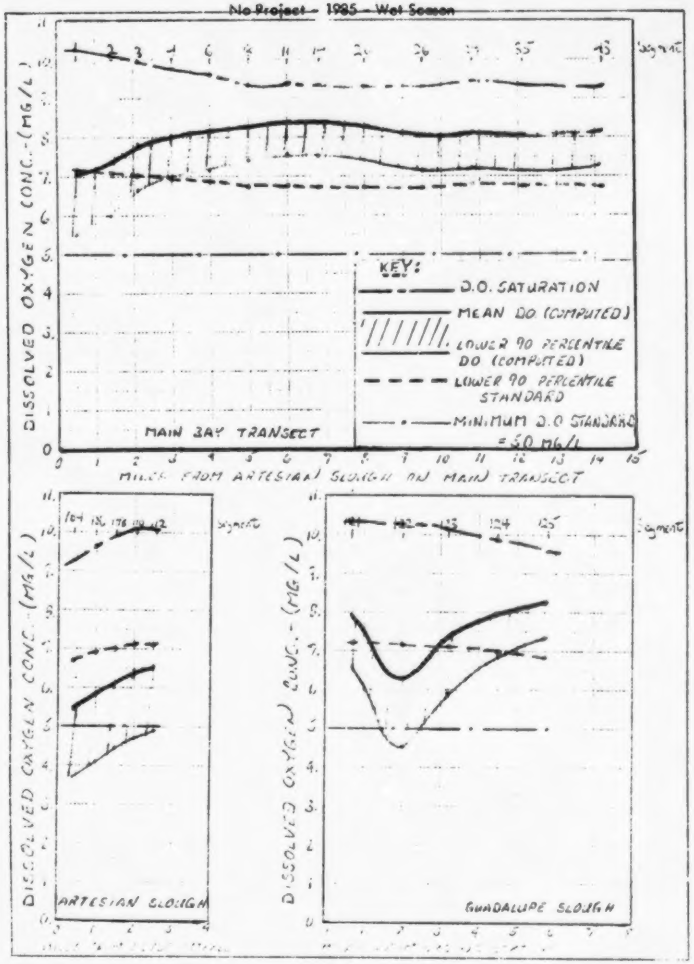

Figure D.3 Water Quality Model Results

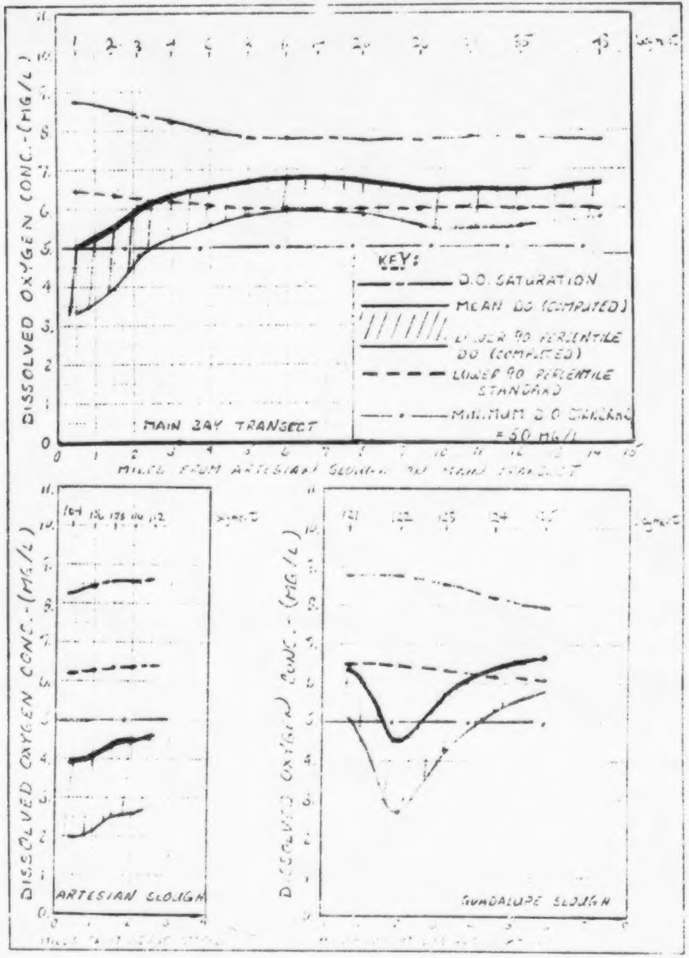

Figure D.4 Water Quality Model Results

No Project - 1995 - Canning Season

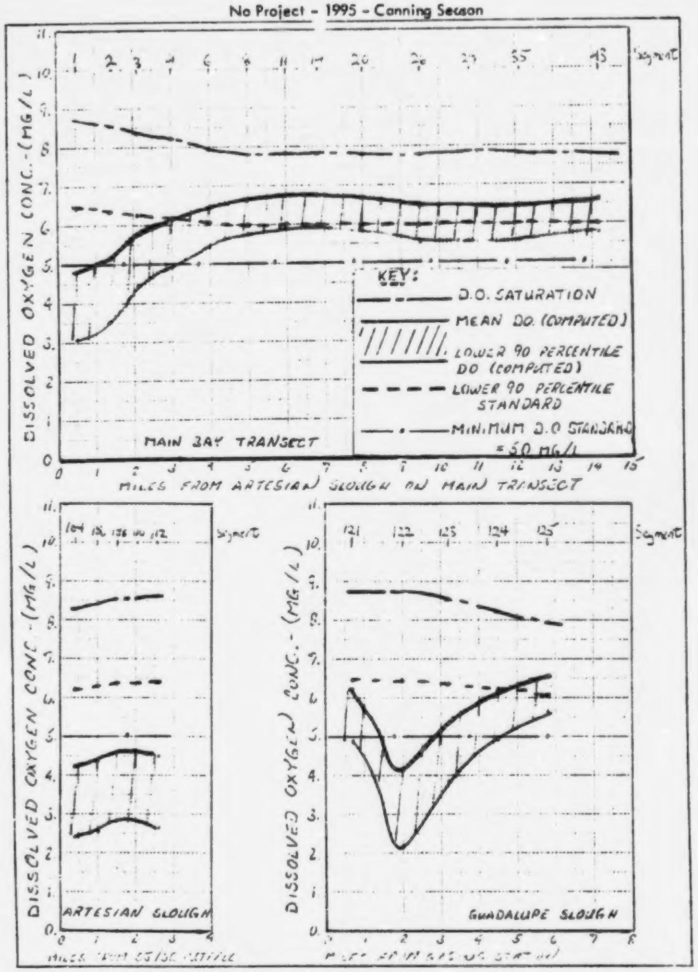

Figure D.5 Water Quality Model Results

No Project - 1995 - Wet Season

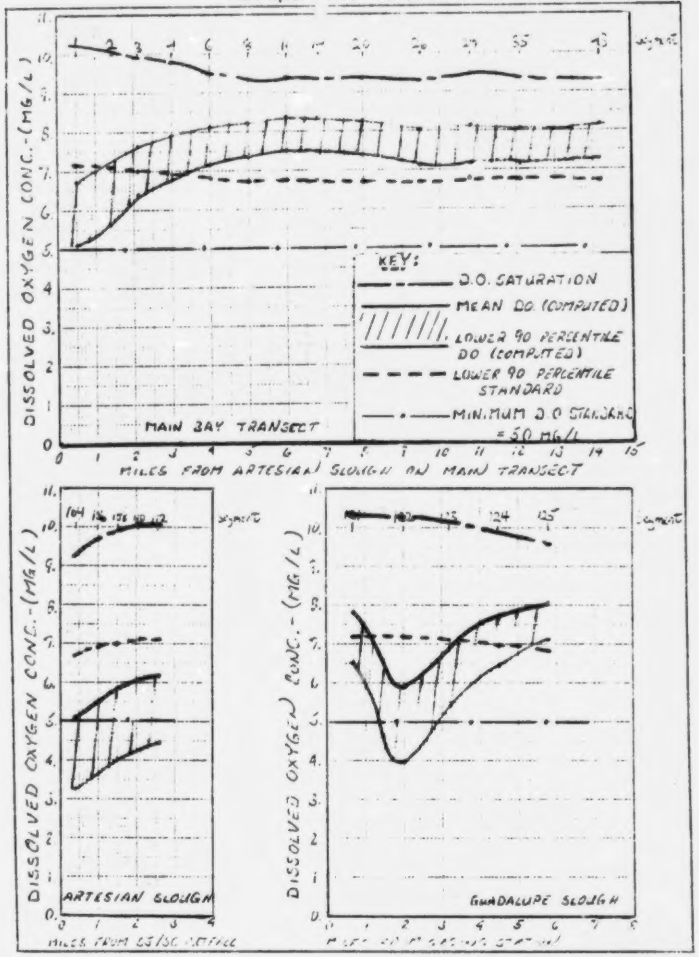

Figure D.6 Water Quality Model Results

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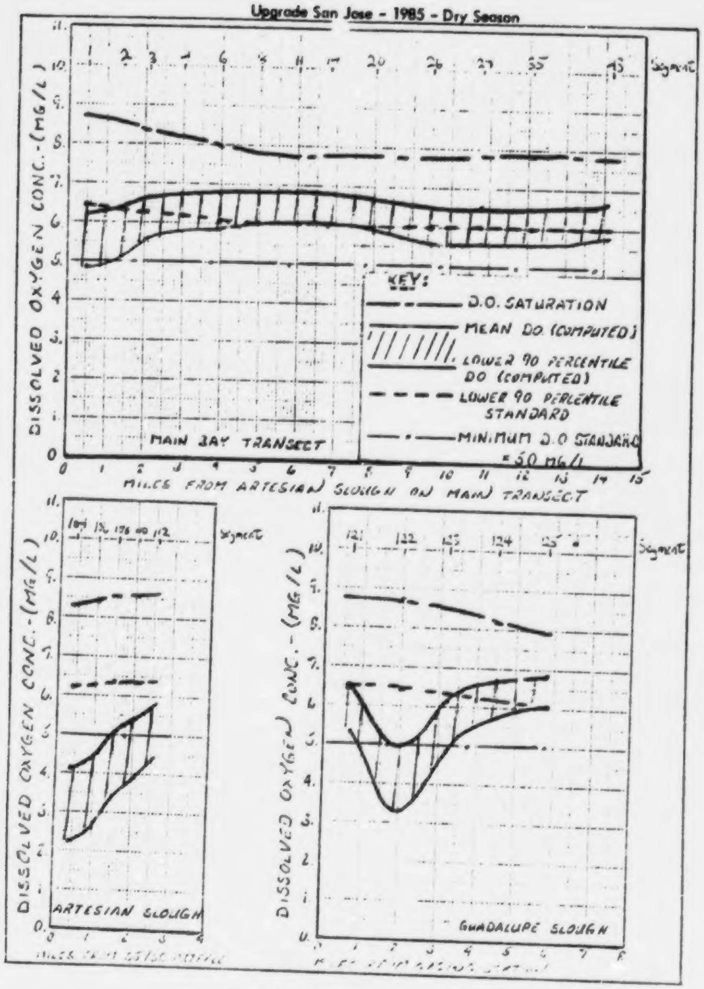

Figure D.7 Water Quality Model Results

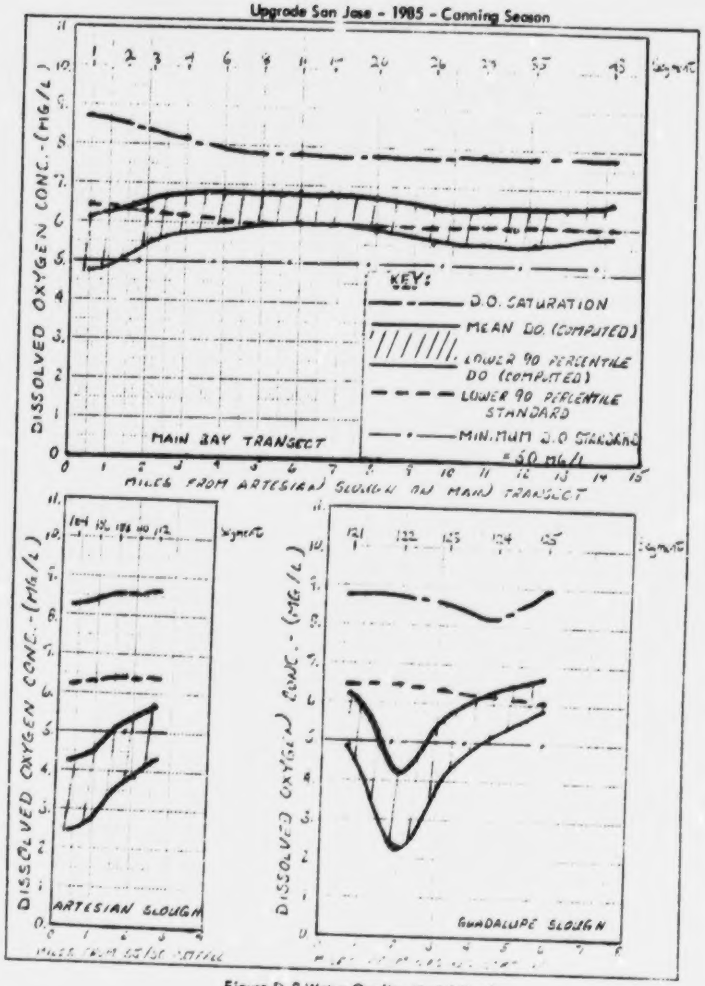

Figure D.8 Water Quality Model Results

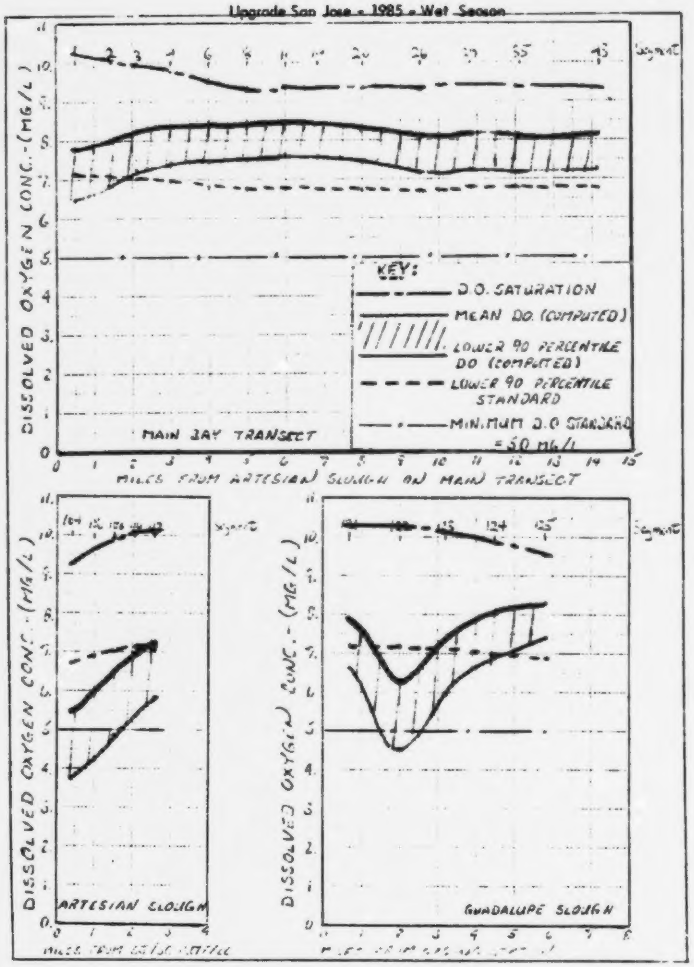
Upgrade San Jose - 1985 - Wet Season

Figure D.9 Water Quality Model Results

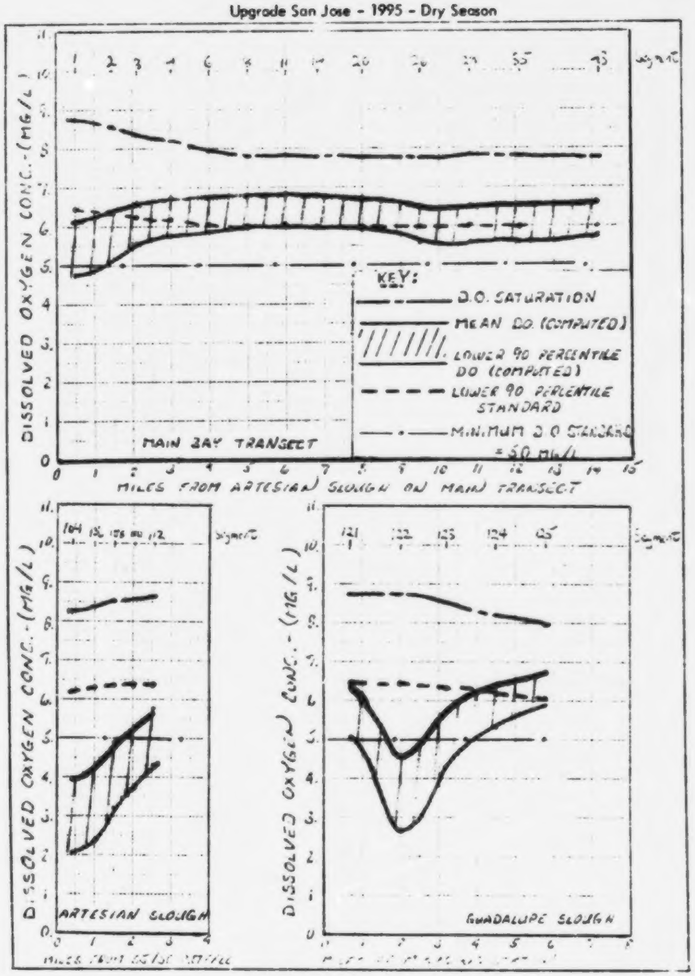
Upgrade San Jose - 1995 - Dry Season

Figure D.10 Water Quality Model Results

Upgrade San Jose - 1995 - Canning Season

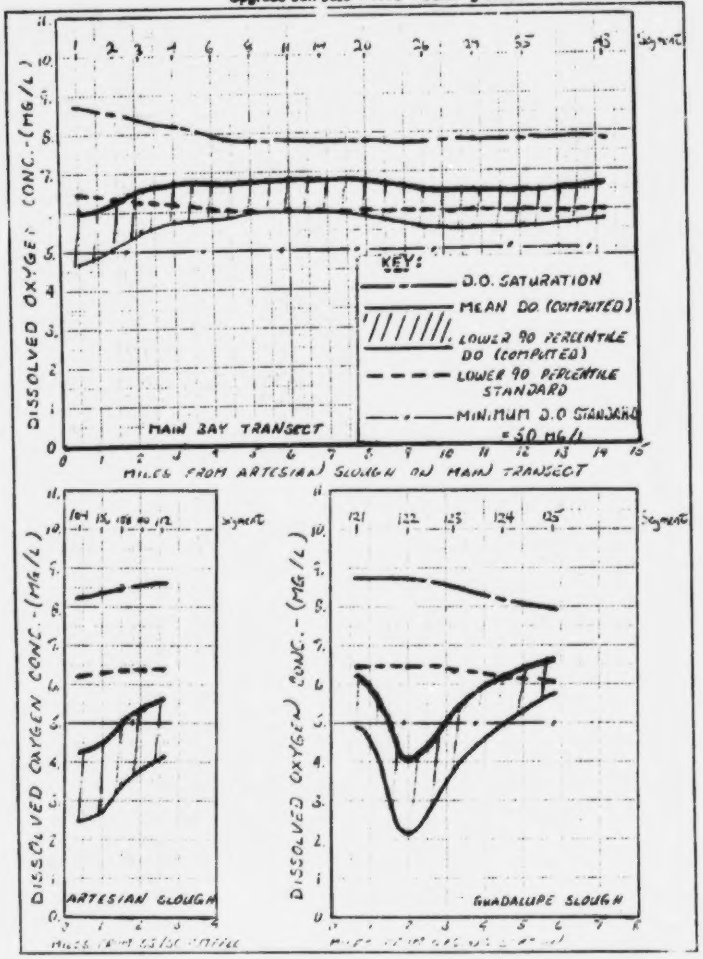

Figure D.11 Water Quality Model Results

Upgrade San Jose - 1995 - Wet Season

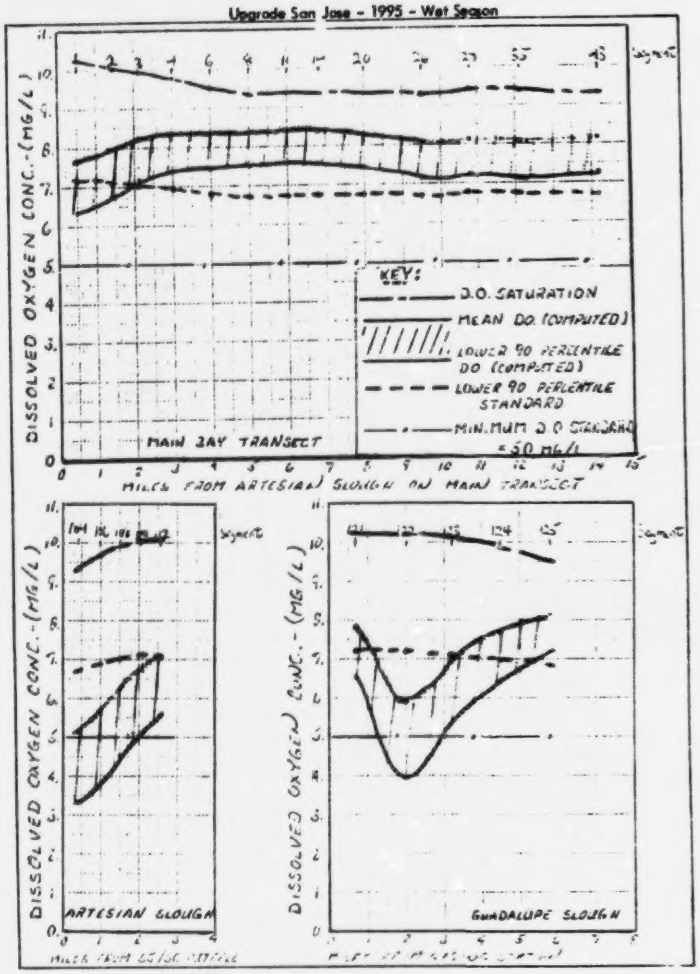

Figure D.12 Water Quality Model Results

Deep Water Discharge – 1985 – Dry Season

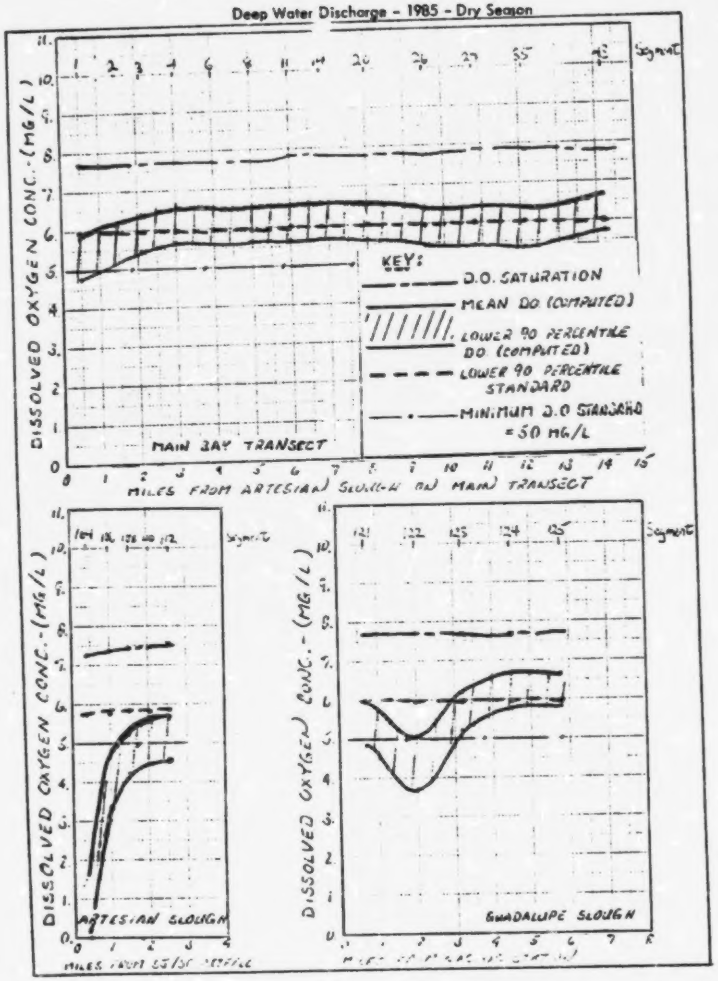

Figure D.13 Water Quality Model Results

Deep Water Discharge – 1985 – Canning Season

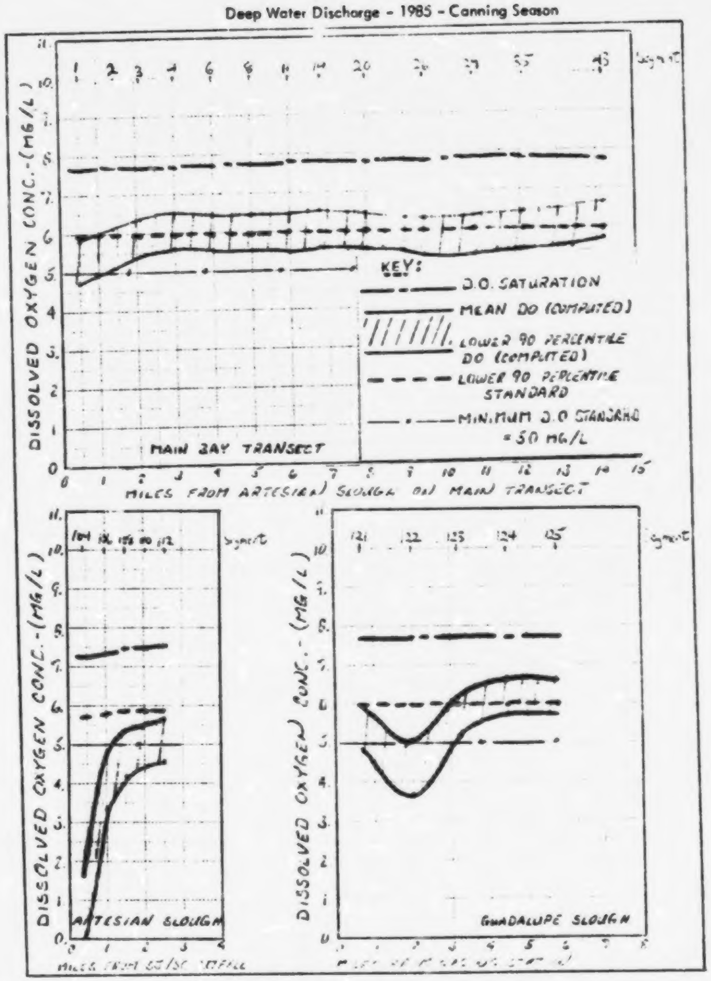

Figure D. 14 Water Quality Model Results

Deep Water Discharge - 1985 - Wet Season

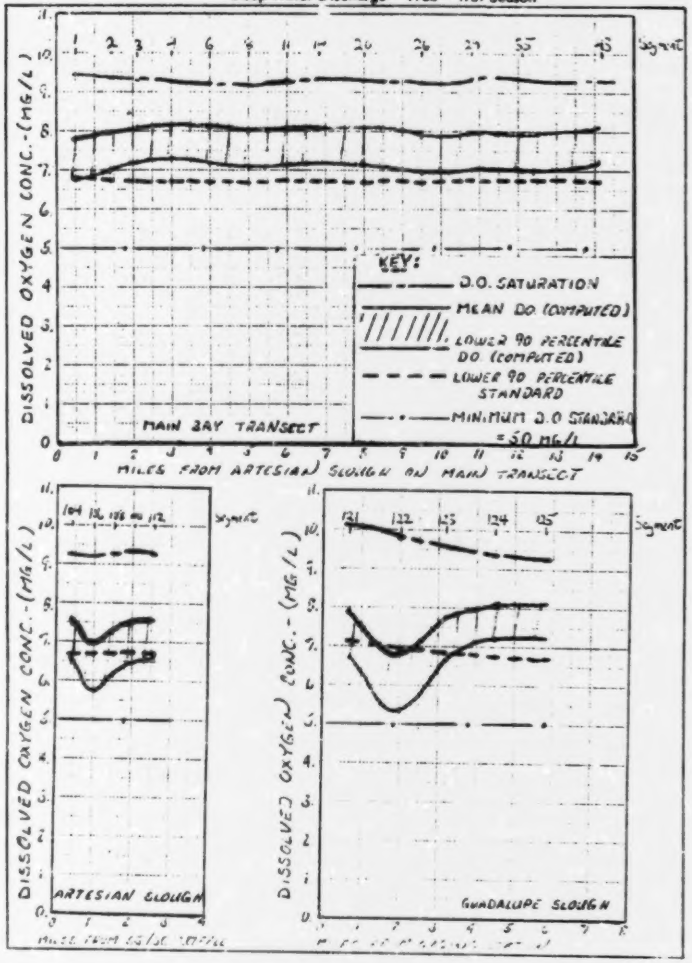

Figure D.15 Water Quality Model Results

Deep Water Discharge - 1995 - Dry Season

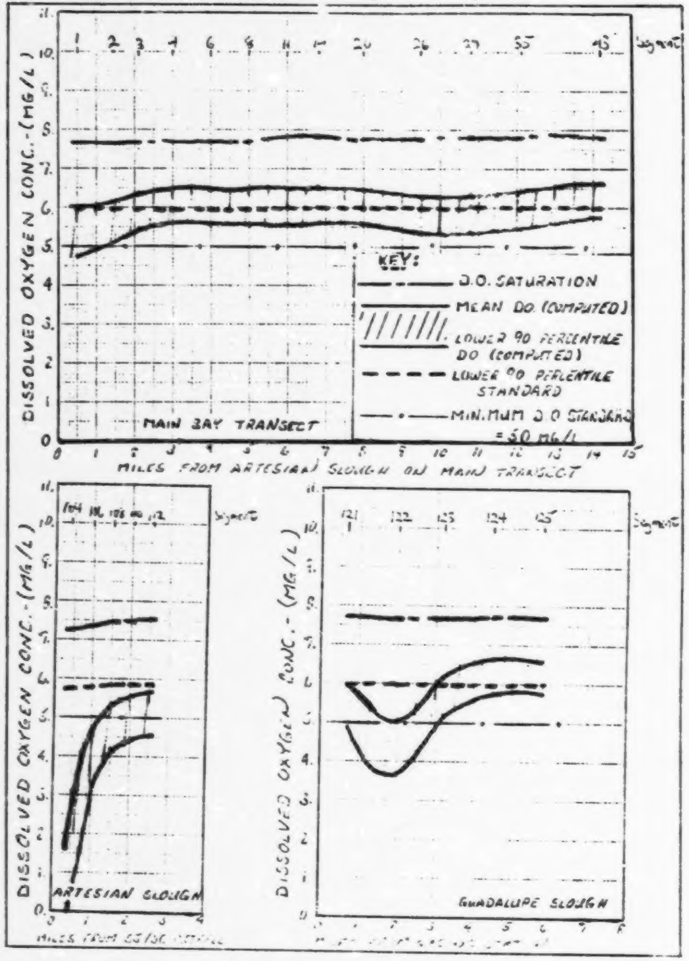

Figure D.16 Water Quality Model Results

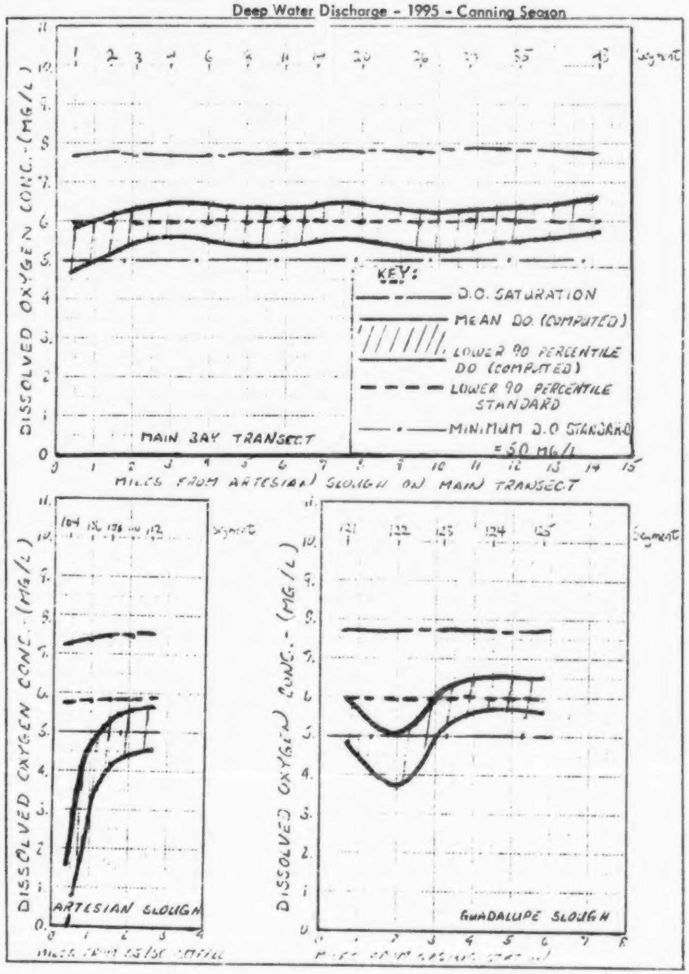
Deep Water Discharge - 1995 - Canning Season

Figure D.17 Water Quality Model Results

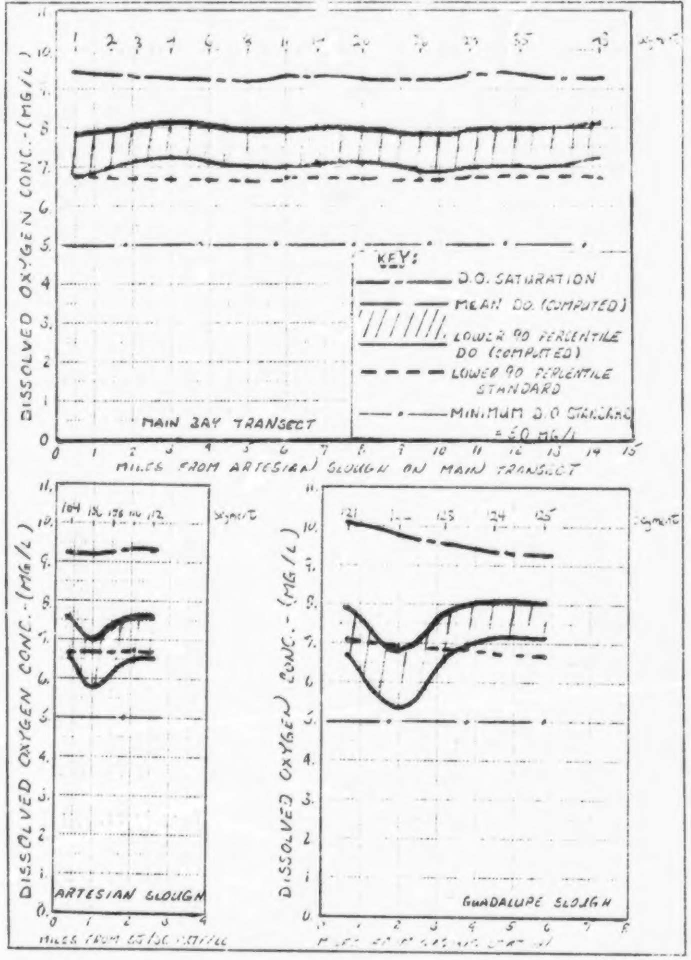
Deep Water Discharge - 1995 - Wet Season

Figure D.18 Water Quality Model Results

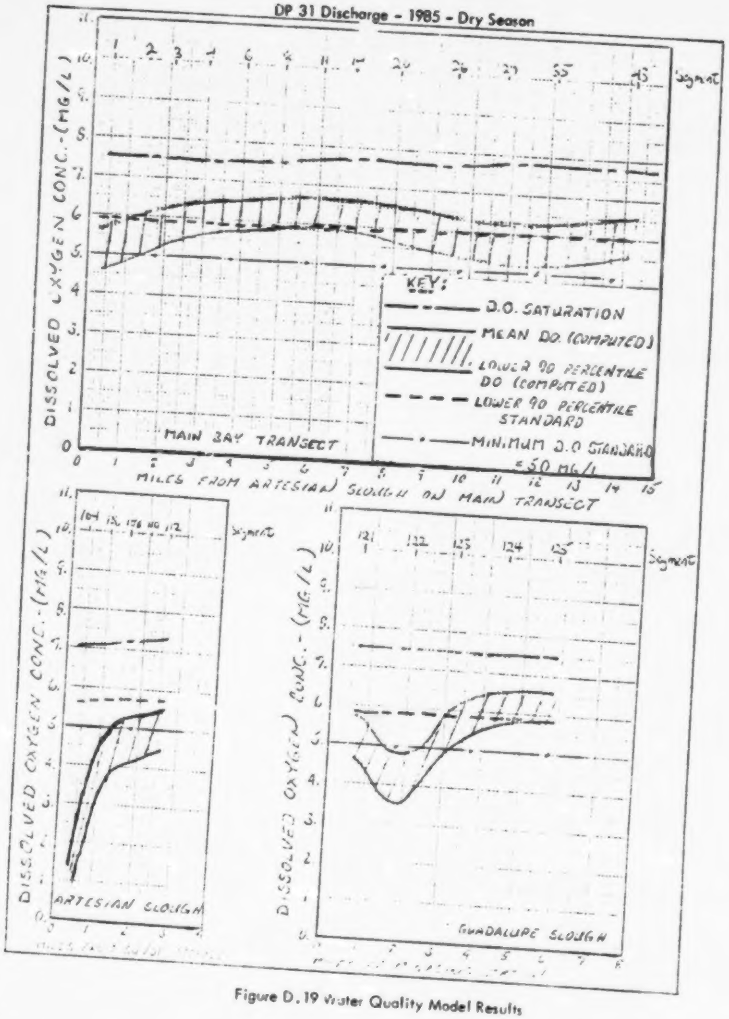

Figure D.19 Water Quality Model Results

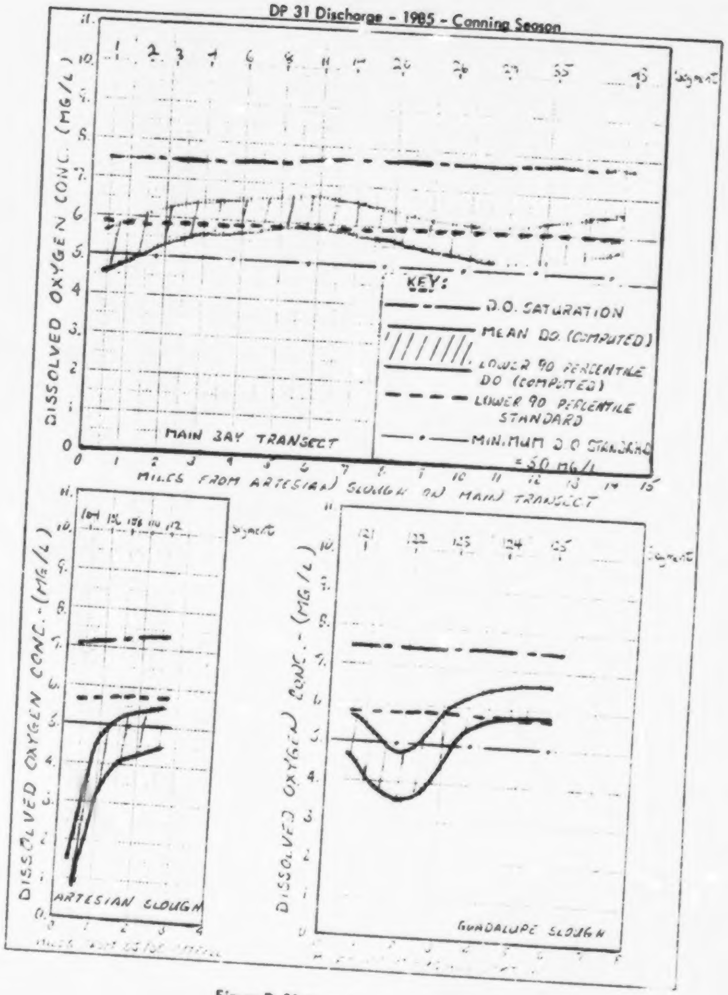

Figure D.20 Water Quality Model Results

DP 31 Discharge - 1985 - Wet Season

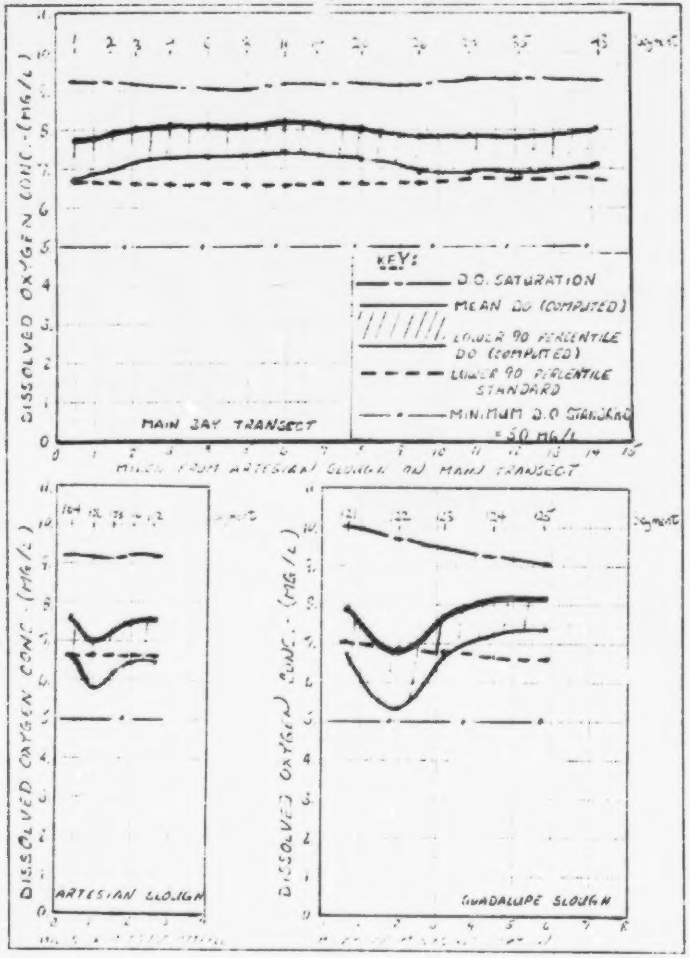

Figure D. 21 Water Quality Model Results

DP 31 Discharge - 1995 - Dry Season

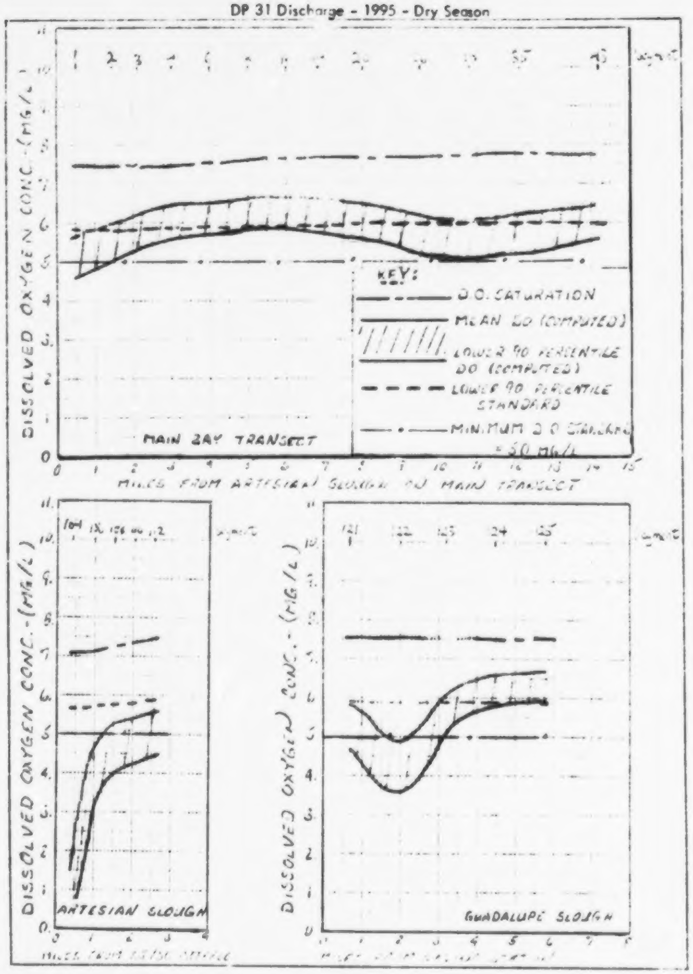

Figure D.22 Water Quality Model Results

DP 31 Discharge - 1995 - Canning Season

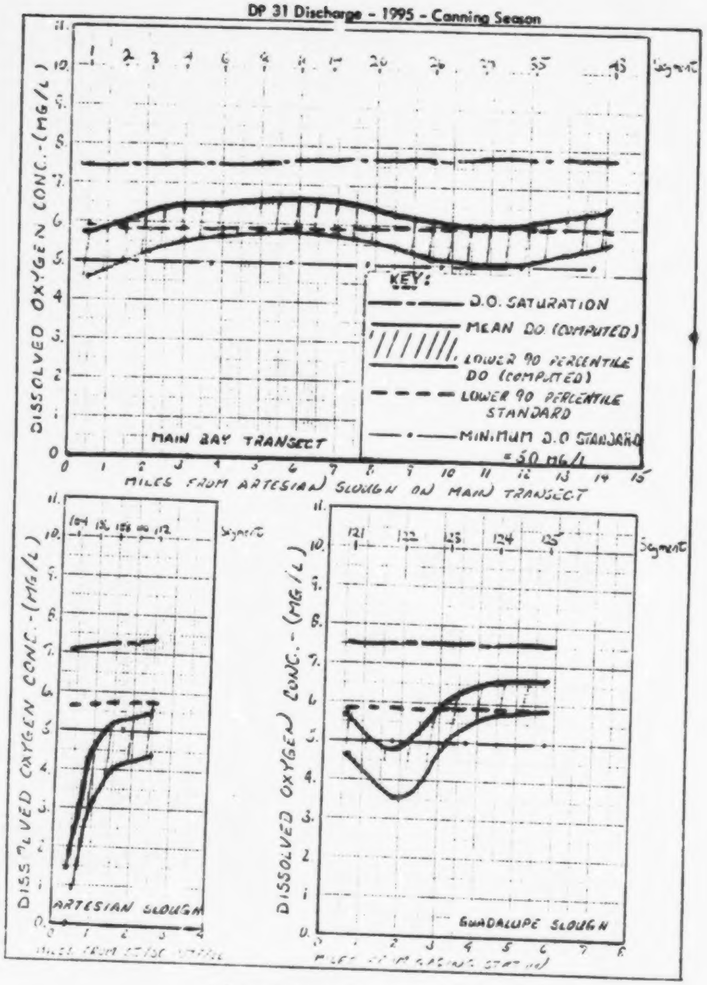

Figure D.23 Water Quality Model Results

DP 31 Discharge - 1995 - Wet Season

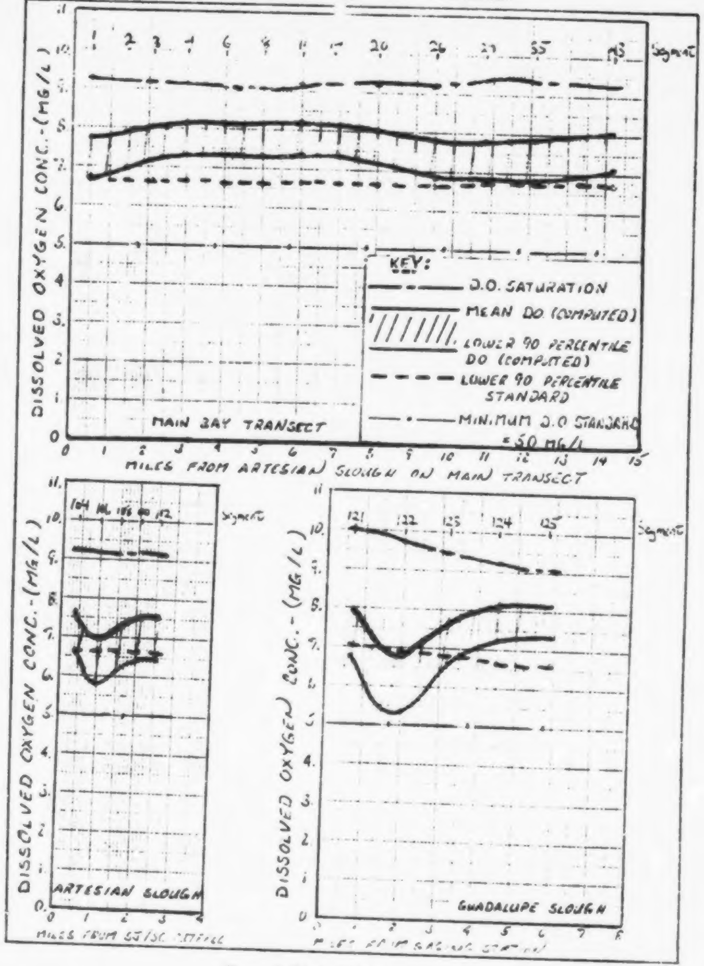

Figure D.24 Water Quality Model Results

Hydroscience

August 13, 1976

Mr. Charles Spink
Bechtel Corporation
Bldg. 345-4A10
P.O. Box 3965
San Francisco, California 94119

RE: Evaluation of Leslie Salt Company Discharge on Water Quality in San Francisco Bay

Dear Mr. Spink:

We are pleased to submit this letter report describing studies which were performed to evaluate the impact of a proposed Leslie Salt Company discharge on water quality in South San Francisco Bay. The report considers the combined impacts of the proposed SBDA outfall at D.P. 31, and two discharge alternatives for the Leslie Salt Company. The report explores water quality impacts in four specific areas of concern: dissolved oxygen water quality, changes in chloride concentration, relative toxicity distribution, and potential for alteration to benthic species diversity.

A. Summary

The purpose of this report is to assess the water quality impacts of a proposed discharge from the Leslie Salt Company into South San Francisco Bay. The principal water quality impacts which are addressed in the study are the potential for chronic bioinhibition, reductions to dissolved oxygen concentration, and changes in chloride concentration. The objective of the proposed work is to provide Bechtel Inc. with a quantitative assessment of water quality effects relative to: 1) the combined discharge of Leslie Salt Company effluent and South Bay discharger effluent at "Disposal Point 31", and 2) Leslie Salt Company effluent discharged through a separate diffuser system at "Disposal Point 26", which is in the vicinity of Dumbarton Bridge. Figure 1 shows both locations on a schematic of the bay model.

The objectives of the study were achieved by running the most recent version of Hydroscience's steady state model of San Francisco Bay. The water quality model was applied to: wastewater loadings anticipated in 1985 and 1995, under dry weather, wet weather and canning season flows. The principal water quality indicators which were modeled included: conservative relative toxicity, chlorides, ultimate BOD, and dissolved oxygen. Potential impacts on benthic species diversity index due to changes in water quality were also considered.

The analysis results indicate no significant impact on dissolved oxygen and chloride concentrations in the bay. The maximum dissolved oxygen deficit in the Bay due to the Leslie Salt Company discharge is calculated to be 0.03 mg/l. Chloride concentrations in a localized area in South Bay are calculated to increase by 1.4%.

Relative toxicity concentrations in the area south of Dumbarten Bridge are however expected to increase by 20 to 35 ml/l due to the Leslie Salt Company discharge. Under these circumstances computed concentrations of relative toxicity, due to discharges in the South Bay area alone, are computed to be greater than California's Planning Guideline of 40 ml/l. However, an analysis of the biological impacts of the relative toxicity increase suggests that changes in the benthic species diversity are expected to be small to moderate.

From the standpoint of minimizing the potential for chronic (log term) biological impacts in a local region south of Dumbarton Bridge, participation of the Leslie Salt Company in the SBDA outfall at DP-31 appears to be slightly more favorable than the alternate where the Leslie Salt Company bittern is disposed of through a separate discharge outfall at DP-26. The Leslie Salt Company's participation in the SBDA outfall will, however, also provide a readily available diluent for the bittern such that State imposed discharge regulations can be met with a higher degree of confidence.

[illegible] 1976

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WALNUT CREEK, CALIFORNIA ARLINGTON, TEXAS
DIVISION OF HYDROSCIENCE ASSOCIATES INC

B. Analysis Results

1. Relative Toxicity

The effects of the Leslie Salt Company bitten discharge on relative toxicity concentrations in South San Francisco Bay are analyzed for two disposal conditions; 1) disposal through a separate Leslie Salt Company outfall and diffuser at DP-26, and 2) Leslie Salt Company's participation in the proposed SBDA outfall discharge at DP-31. The 1985 and 1995 dry, wet and canning season conditions are considered. For all conditions the South Bay Discharge Authority is assumed to discharge to DP-31. Toxicity characterization of the bittern as well as the computed toxicity emmission rates for the various loadings are presented in Appendix A.

The projected increases in relative toxicity concentration due to the South Bay Dischargers and the Leslie Salt Company discharge for 1995 are presented in Figures 2 through 7. The figures show that the computed relative toxicity concentration increase in South Bay (below Dumbarton Bridge) is at all times greater than the California guideline of 40 ml/l. However, in all other regions of the bay, the relative toxicity concentration increases due to the combined effects of SBDA and the Leslie Salt Company discharge are less than 40 ml/l. The 1995 projections indicate that the Leslie Salt Company discharge will increase the relative toxicity concentrations in South Bay by 56% to 69% for disposal into DP-26, and by 37% to 45% for disposal into DP-31 over previously projected increases, depending upon the seasonal condition. These results are presented in detail in Appendix B.

The effects of the Leslie Salt bittern on South Bay are summarized in Table 1.

TABLE 1

PROJECTED INCREASE IN RELATIVE TOXICITY CONCENTRATIONS IN SOUTH BAY DUE TO THE LESLIE SALT COMPANY DISCHARGE

Projection Year	Disposal Location	Relative Toxicity Concentration Increase (ml/l) (% Increase)		
		Dry	Canning	Wet
1985, 1995	26	33.5(67%)*	33.5(56%)*	31.0(69%)*
	31	22.2(45%)*	22.2(37%;*	20.0(45%)*

* Maximum % increase over the relative toxicity concentrations Projected for the South Bay Dischargers Alone in the Year 1995.

The combined impacts of the South Bay Dischargers and the Leslie Salt Company in 1995 is shown to be between 65 and 95 ml/l depending upon seasonal condition and discharge location.

The maximum computed relative toxicity concentration increase from the combined effects of the SBDA discharge into DP-31 and a separate Leslie Salt Company discharge is 34 ml/l. This discharge condition has slightly greater impacts than a combined discharge at D.P. 31.

2. Chlorides

The effects of the Leslie Salt Company bittern discharge to DP-26 on the chloride concentration in the Bay were analyzed for the 1985, 1995 dry and wet conditions. The projections assume a bittern discharge rate of 0.55 MGD, and a chloride concentration of 352,000 mg/l. The South Bay Discharge Authority is assumed to discharge at DP-31. Complete results of the analysis are shown in Appendix C.

A maximum increase of 1.4% in the chloride concentration of the South Bay is projected with the addition of the Leslie Salt Company discharge. A smaller effect (less than 1%) is computed under a condition which assumes the Leslie Salt Company's participation in the SBDA discharge at DP-31.

The maximum effects on the bay due to the Leslie Salt Company discharge are computed to occur in South Bay, south of Dumbarten Bridge. Table 2 summarizes the average chloride concentrations, along with the expected change in concentration due to the bittern, for this area of the bay.

TABLE 2

AVERAGE CHLORIDE CONCENTRATIONS IN SOUTH BAY
LESLIE SALT COMPANY INTO DP 26, SBDA INTO DP 31

Condition	Previous Projection (mg/l)	Leslie Salt Company (mg/l)	Percent Increase
Wet	11,650	170	1.4
Dry	15,900	190	1.1

The maximum increase in chloride concentration due to the Leslie Salt discharge under any proposed project will be less than 200 mg/l. Somewhat higher concentrations can be expected in a localized area immediately around the discharge structure. Under any of the proposed project conditions, these changes are considered to be small.

3. Dissolved Oxygen

Previous studies have verified BOD_5, ammonia nitrogen and dissolved oxygen concentrations with four sets of data(1) collected during two survey periods. These studies have shown that the major sources of oxygen demand in the Bay appear to be: (1) the carbonaceous and nitrogenous BOD loads from the major wastewater dischargers, (2) oxygen uptake from the bottom muds, and (3) carbonaceous and ammonia nitrogen contributions from the surrounding marsh lands.

Utilizing information from a previous study(1) the effect of the Leslie Salt Company bittern discharged into DP-26 during 1995 dry weather conditions is estimated. For projection purposes, the Leslie Salt Company discharge is assumed to exert a 700 ppm U.O.D.. The discharge rate is 0.55 MGD. Waste characterization of the bittern is shown in Appendix A. As in previous studies, a BOD reaction rate and, a deoxygenation rate of 0.2 per day at 20°C are utilized.

The dissolved oxygen deficits resulting from the major sources of oxygen demand in the Bay for 1995-dry weather conditions, including the Leslie Salt Company discharge are shown in Appendix D. Maximum dissolved oxygen deficits caused by the Leslie Salt Company discharge are projected to be about 0.03 mg/l in the vicinity of the disposal area. This represents an increase of less than 3% over the previous projection (for the same area).

Considering previous dissolved oxygen projections of the mean and lower 90 percentile dissolved oxygen concentrations, as demonstrated in Figure 8, a change of 0.03 mg/l appears to be insignificant.

4. Benthic Species Diversity Index

In an attempt to quantify the relative toxicity impact of the Leslie Salt Company discharge, consideration was given to potential impacts on the benthic species diversity index in the Bay. A previous study(2) has shown that a statistical relationship exists betwen relative toxicity, chlorosity and the benthic species diversity index. Given those statistical relationships an estimate of the expected change in BSDI due to the Leslie Salt Company discharge has been developed. This analysis is not intended to be a quantitative forecast, but rather an indicator of trends that could develop if the Leslie Salt Company bittern is discharged in the vicinity of Dumbarton Bridge.

In a statistical evaluation of the relationship between toxicity and species diversity index(2), the best controllable variable equation relates log BSDI to log chlorides and log conservative relative toxicity. The equation is stated as follows:

$$BSDI = 0.671\ \text{chlorides}\ (gm/l)^{.456}\ R.T\ (ml/l)^{-0.189} \qquad (1)$$

It has been estimated that approximately 50 percent of the variance in log BSDI, can be accounted for with this equation. The remainder is assigned to random causes. The non-controllable variable (chlorides) account for 35 percent of the variation and relative toxicity accounts for 15 percent.

Using this equation, it is possible to compute the percent change in BSDI to be expected from a percent change in relative toxicity. The ratio of percent BSDI increase to relative toxicity decrease is estimated to be 0.2 + 0.05(2). Table 3 presents the expected percent change in BSDI due to the relative toxicity loading from the Leslie Salt Company discharge.

- -

TABLE 3

EXPECTED PERCENT CHANGE OF BSDI IN SOUTH SAN FRANCISCO BAY DUE TO LESLIE SALT COMPANY BITTERN DISCHARGE*

Disposal Location	Projection Year	% Change of BSDI** Dry	Wet	Canning
DP-26	1985	-16.0	-16.5	-12.6
	1995	-13.4	-13.8	-11.2
DP-31	1985	-10.6	-10.6	- 8.4
	1995	- 8.9	- 8.9	- 7.4

* $\frac{\%\ \Delta\ BSDI}{\%\ \Delta\ Rel.\ Tox} = 0.2$

** SBDA Discharge into DP-31

- -

For the three seasonal patterns; dry, wet, and canning, the change in computed BSDI due to the Leslie Salt discharge is less than 20% in all cases ranging from 7% to 11% for the Leslie Salt Company discharge at D.P. 31 from 11% to 17% for discharge at D.P. 26. Based on previous analyses(2), this change would not be readily apparent in sampling programs because of the large background variability in BSDI. Approximately 25 percent of the total log BSDI variation in sample data has been attributed to measurement error alone(2). An additional 25% is apparently due to other unknown factors.

These impacts of the Leslie Salt Company discharge assume that the South Bay Discharge Authority disposal site is DP-31.

Conclusions

On the basis of the foregoing analysis the following conclusions are presented.

1) The toxic emmission rate of the proposed Leslie Salt Company bittern discharge has been computed to be 34.4 MGD of relative toxicity. A mathematical modeling analysis of San Francisco Bay indicates that the effluents relative toxicity concentration is its most significant characteristic from a water quality standpoint. If Leslie Salt Company discharges at D.P. 31 through the proposed SBDA outfall relative toxicity concentrations in South Bay are projected for 1995 to increase about 45% over concentrations which would prevail if only the South Bay Dischargers discharged at D.P. 31. The anticipated seasonal increases vary between 20 and 23 ml/l. If, however, the Leslie Salt Company utilizes a separate discharge at D.P. 26, seasonal relative toxicity concentrations for 1995 are projected to increase by between 31 and 34 ml/l; a 56% to 69% increase. In any event, the projected relative toxicity concentrations due to the South Bay Dischargers Authority and the Leslie Salt Company are anticipated to exceed the State of California's planning guideline of 40 ml/l. The magnitude of the combined effect for 1995 projections varies seasonally as well as with discharge location, and is between 65 and 95 ml/l.

2) The Leslie Salt discharge has a small impact on the projected chloride concentration in the Bay. During dry weather periods the maximum increase in chloride concentration due to the Leslie Salt bittern is 1.1%. Wet weather flow projections show a maximum increase of 1.4%. These increases represent an increase of between 170 and 190 ppm in the area south of the Dumbarton Bridge.

3) No detectable changes in the dissolved oxygen concentration of the Bay are expected to result from the Leslie Salt Company discharge. Maximum increases in dissolved oxygen deficit concentrations of .03 mg/l are calculated in the areas near the point of discharge.

4) Although the Leslie Salt discharge will increase relative toxicity concentrations in South Bay by 20 to 34 ml/l. The impact on benthic species diversity is anticipated to be small to moderate. Benthic species diversity indices could be depressed 10 to 15% below what they would have been if only the SBDA discharged to D.P. 31 under proposed plans. This conclusion is developed from a weak analytical base and is intended to indicate trends rather than make forecasts.

We would like to express our appreciation to Ms. Carol Harper for her cooperation and assistance. The contribution of Mr. Charles Dujardin of our engineering staff and Ms. Gayle Higgins are also gratefully acknowledge.

Respectfully submitted,

HYDROSCIENCE

John P. St. John

Respectfully submitted,

HYDROSCIENCE

Daniel S. Szumski

JPSJ:DSS/gah

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(1) Hydroscience, Inc., "Evaluation of Discharge Alternatives For South Bay Discharges Authority", December 1975.

(2) Hydroscience, Inc., "A Statistical Evaluation of the Relationship Between Relative Toxicity And Species Diversity Index", Vol. II of "A Study of Toxicity and Biostimulation in San Francisco Bay - Delta Water", prepared for The State Water Resources Control Board, Nobember 1972.

(3) "Water Quality Control Plan Report", State Water Resources Control Board, San Francisco Bay Region (2).

(4) Memorandum to Frank M. Belick from Edward R. Becker, City of San Jose, February 9, 1976.

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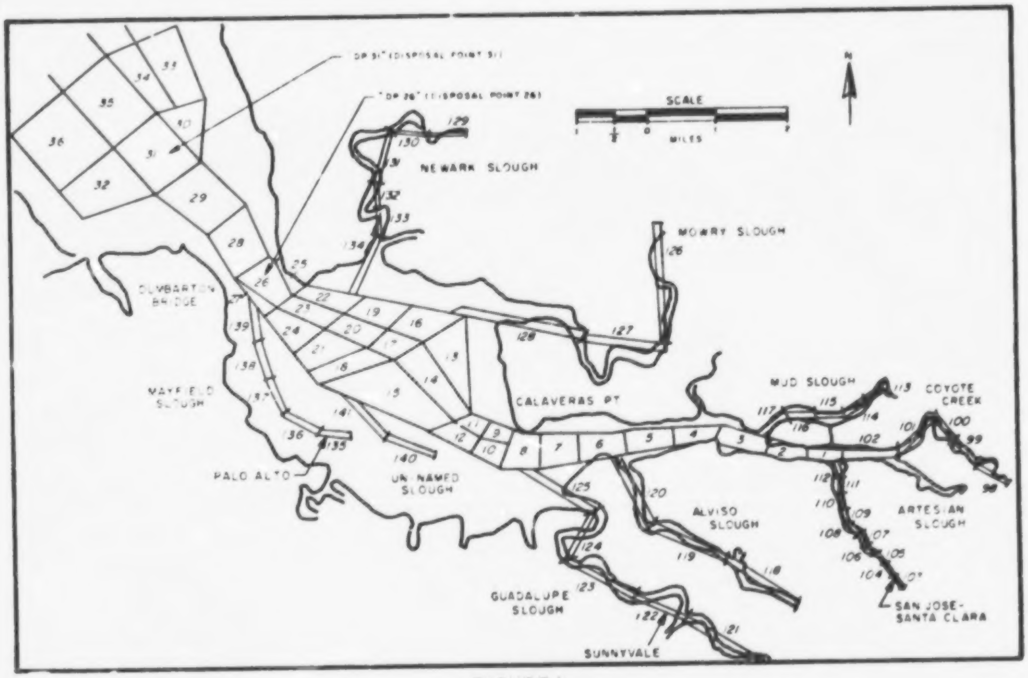

"DP 31" (DISPOSAL POINT 31)
"DP 26" (DISPOSAL POINT 26)
SCALE
MILES
N
NEWARK SLOUGH
MOWRY SLOUGH
DUMBARTON BRIDGE
MAYFIELD SLOUGH
PALO ALTO
UNNAMED SLOUGH
CALAVERAS PT
MUD SLOUGH
COYOTE CREEK
ALVISO SLOUGH
ARTESIAN SLOUGH
GUADALUPE SLOUGH
SUNNYVALE
SAN JOSE-SANTA CLARA

FIGURE 1
RESEGMENTION OF SOUTH SAN FRANCISCO BAY MODEL (DETAIL)

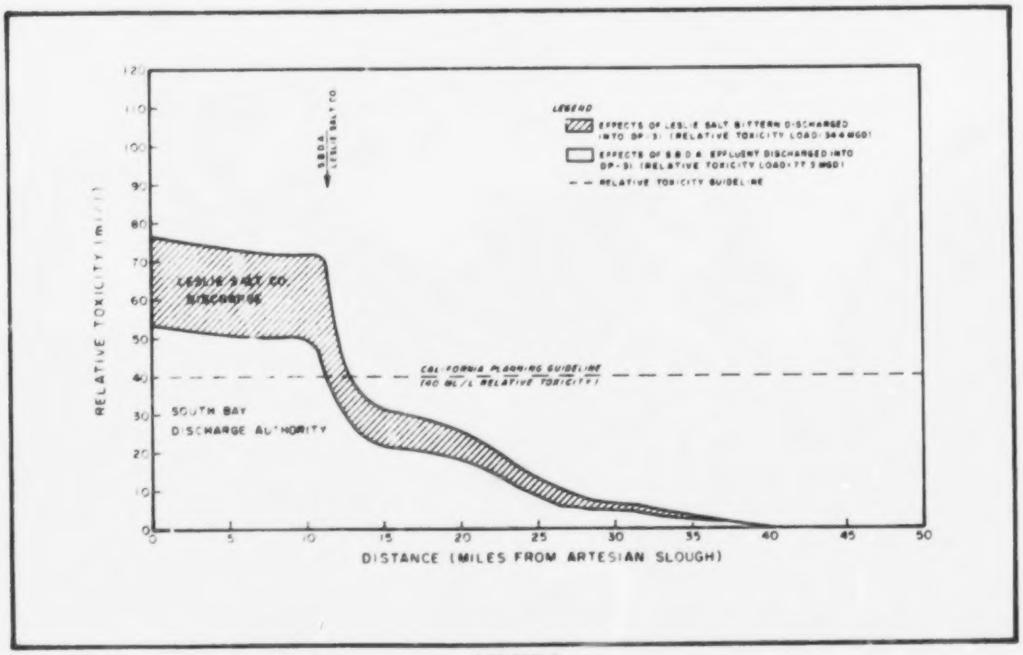

FIGURE 2
COMPUTED RELATIVE TOXICITY CONCENTRATIONS - MAIN BAY TRANSECT
1995, DRY CONDITIONS

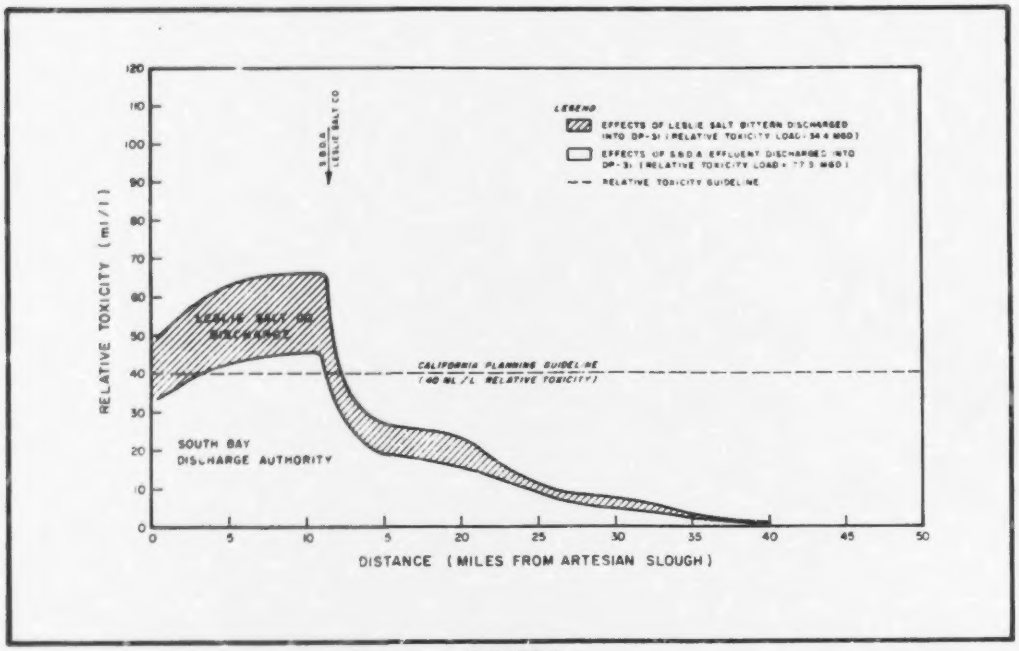

FIGURE 3
COMPUTED RELATIVE TOXICITY CONCENTRATIONS – MAIN BAY TRANSECT
1995, WET CONDITIONS

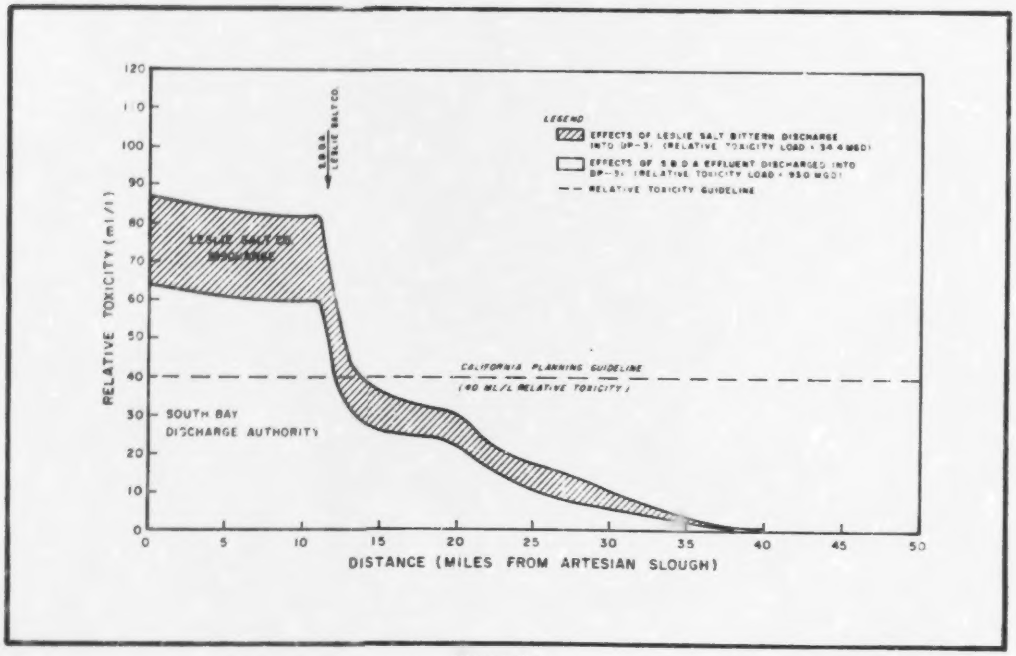

FIGURE 4
COMPUTED RELATIVE TOXICITY CONCENTRATIONS– MAIN BAY TRANSECT
1995, CANNING CONDITIONS

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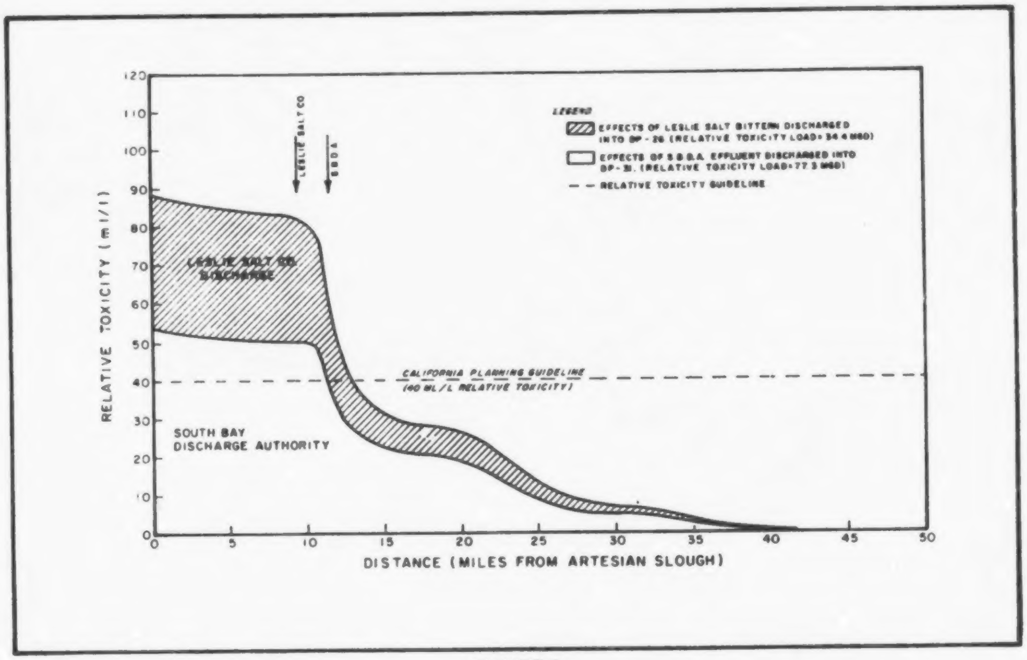

FIGURE 5
COMPUTED RELATIVE TOXICITY CONCENTRATIONS – MAIN BAY TRANSECT
1995, DRY CONDITIONS

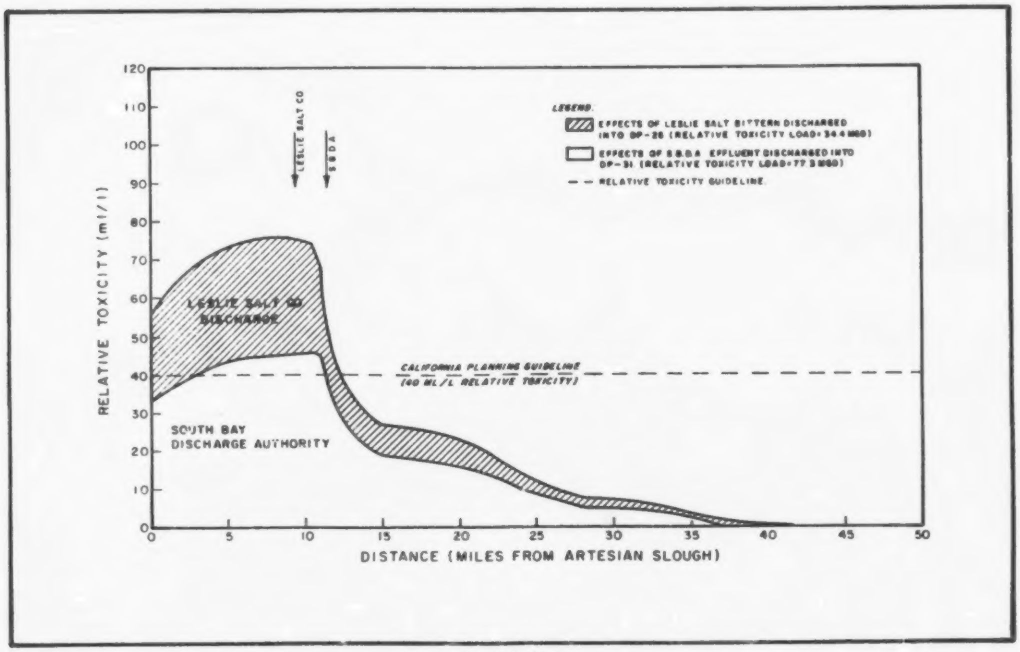

FIGURE 6
COMPUTED RELATIVE TOXICITY CONCENTRATIONS – MAIN BAY TRANSECT
1995, WET CONDITIONS

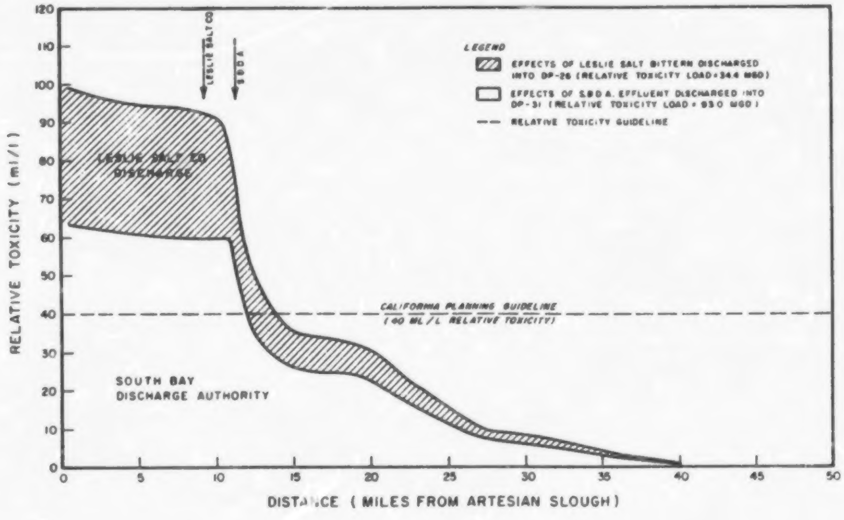

FIGURE 7
COMPUTED RELATIVE TOXICITY CONCENTRATIONS - MAIN BAY TRANSECT
1995, CANNING CONDITIONS

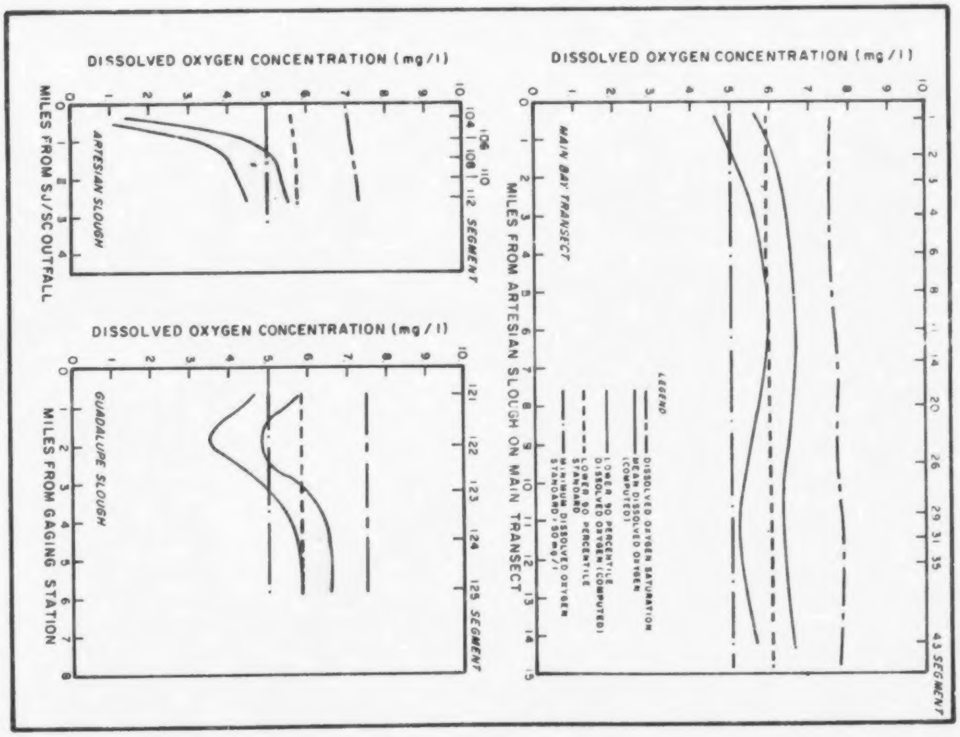

FIGURE 8
WATER QUALITY MODEL RESULTS
DISPOSAL POINT 31, DRY WEATHER, 1985

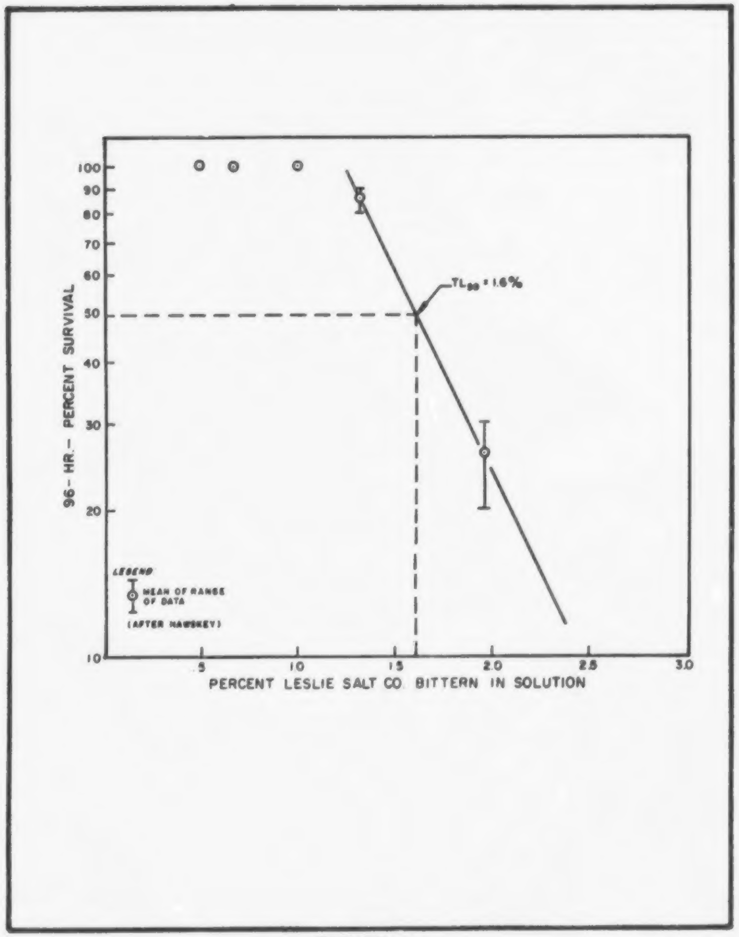

FIGURE A1

DETERMINATION OF 96 HOUR-TL_{50} FOR LESLIE SALT CO. BITTERN

APPENDIX A

CHARACTERIZATION OF LESLIE SALT COMPANY BITTERN

I. Oxygen Demanding Material

Characterization of the Leslie Salt bittern had been performed by CDM Inc. in June, 1975 and by the Ray W. Hawkskey Company, Inc. in December 1975. CDM, Inc. had reported BOD and U.O.D. concentrations of several dilutions of the bittern. From these data apparent BOD and U.O.D. concentrations of the bittern are calculated. The results are shown in Table A-1.

Ray W. Hawksley Company, Inc. reports a BOD concentration of 240 ppm and a total kjeldahl nitrogen concentration of 38.8 ppm in the bittern. However, the City of San Jose in a memorandum to Mr. Frank Bellack(4) has suggested that "The BOD of the bittern discharge should be set at 350 ppm when analyzed by Hydroscience." Assuming a 1.5 ratio for $CBOD_{ult}$: BOD_5, and a 4.57 conversion of oxidizable nitrogen to nitrogenous oxygen demand, the ultimate oxygen demand calculates to be about 700 ppm. This is close to the maximum U.O.D. concentration determined by CDM, Inc. For modeling purposes, therefore, the Leslie Salt discharge was assumed to exert a 700 ppm U.O.D. concentration.

II. Relative Toxicity

The toxicity emmission rate of the Leslie Salt discharge is calculated according to the "Water Quality Control Plan Report"(3) which defines the toxicity emmission rate (T.E.R.) as "the product of the effluent Toxicity concentration (T_c) and the waste flow rate expressed as MGD":

$$TER\ (t_u.\ MGD) = T_c(t_u) \times \text{waste flow (MGD)}$$

The toxicity concentration (T_c) as expressed in toxic units (t_u) is defined as:

$$T_c(t_u) = \frac{100}{96\text{ hr }TL_m(\%)}$$

where $TL_m(\%)$ is the median tolerance limit expressed as a percent.

Using data collected by Ray W. Hawkley Company, Inc. (January 1975), the median tolerance limit (TL_m) of the bittern is calculated to be approximately 1.6%. Figure A-1 presents this result. This is consistent with the findings of Ray W. Hawksley Company in 1970 where the 96 hour TL_m of the bittern ranged from 1.4 to 2.0%. Assuming a 0.55 MGD bittern discharge rate, the toxicity emmission rate of the Leslie Salt Company discharge is computed as 34.4 MGD. The toxicity emmission rates for the various seasons are summarized in Table A-2.

TABLE A-1

CHARACTERIZATION OF LESLIE SALT BITTERN

Sample Dilution	Sample Date	BOD. ppm	UOD ppm	Apparent BOD Bittern (ppm)	Apparent UOD Bittern (ppm)
Diluent	1/27/75	7	-	-	-
200:1	1/27/75	9	-	409	-
150:1	1/27/75	10	-	460	-
100:1	1/27/75	11	-	411	-
75:1	1/27/75	12	-	387	-
50:1	1/27/75	15	-	415	-
1000:1	2/21/75	5	-	-	-
Diluent	3/25/75	4	9	-	-
250:1	3/25/75	6	11	506	511
200:1	3/25/75	7	12	607	612
150:1	3/25/75	7	13	457	613
100:1	3/25/75	9	16	509	716

a) Samples were bittern from Pond 13, Plant No. 2 at approximately 35°

b) Secondary effluent from Valley Community Services District, Pleasanton, California

TABLE A-2

Projection Year	Season	Toxicity Emmission Rate (t_u MGD)		Total
		SBDA	Leslie Salt Company	
1985	Dry	65.0	34.4	99.4
	Wet	65.0	34.4	99.4
	Canning	82.2	34.4	116.6
1995	Dry	77.3	34.4	111.7
	Wet	77.3	34.4	111.7
	Canning	93.0	34.4	127.4

APPENDIX B

COMPLETE MODEL RESULTS OF PROJECTED RELATIVE TOXICITY CONCENTRATION

COMPUTED RELATIVE TOXICITY CONCENTRATIONS
LESLIE DISCHARGE INTO DP 26.SBDA INTO DP31
1985

	DRY				WET				CANNING			
SEGMENT	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.
1	44.2	35.4	79.6	79.9	28.9	23.9	52.7	92.3	56.0	35.3	91.3	63.1
2	43.9	35.1	79.0	79.8	31.1	25.6	56.7	92.3	55.6	35.1	90.7	63.1
3	43.7	34.9	78.6	79.8	32.5	26.9	59.4	92.3	55.3	34.9	90.2	63.1
4	43.4	34.7	78.1	79.9	33.6	27.7	61.3	92.3	55.0	34.7	89.7	63.1
5	43.1	34.4	77.6	79.8	34.5	28.4	63.0	92.3	54.6	34.4	89.1	63.1
6	42.8	34.2	77.1	79.8	35.3	29.0	64.3	92.3	54.2	34.2	88.5	63.1
7	42.6	34.0	76.7	79.9	35.9	29.6	65.6	92.3	53.9	34.0	88.0	63.1
8	42.5	33.9	76.5	79.8	36.2	29.9	66.1	92.3	53.8	33.9	87.8	63.1
9	42.3	33.7	76.0	79.9	36.8	30.3	67.2	92.3	53.5	33.7	87.3	63.1
10	42.3	33.7	76.0	79.9	36.8	30.3	67.1	92.3	53.5	33.7	87.3	63.1
11	42.1	33.6	75.8	79.8	37.1	30.5	67.7	92.3	53.3	33.6	87.0	63.1
12	42.1	33.6	75.8	79.8	37.1	30.5	67.7	92.3	53.3	33.6	87.0	63.1
13	42.0	33.5	75.6	79.8	37.4	30.9	68.3	92.3	53.2	33.5	86.7	63.1
14	42.0	33.5	75.6	79.9	37.4	30.9	68.2	92.3	53.2	33.5	86.8	63.1
15	42.0	33.6	75.6	79.8	37.3	30.7	68.1	92.3	53.2	33.6	86.8	63.1
16	42.0	33.5	75.6	79.9	37.4	30.9	68.3	92.3	53.1	33.5	86.7	63.1
17	41.9	33.5	75.5	79.9	37.4	30.9	68.3	92.3	53.1	33.5	86.6	63.1
18	41.9	33.5	75.5	79.8	37.4	30.9	68.3	92.3	53.1	33.5	86.7	63.1
19	41.8	33.4	75.3	79.8	37.5	30.9	68.4	92.3	53.0	33.4	86.4	63.1
20	41.9	33.5	75.4	79.9	37.5	30.9	68.4	92.3	53.0	33.5	86.5	63.1
21	41.9	33.5	75.5	79.8	37.4	30.9	68.3	92.3	53.1	33.5	86.6	63.1
22	41.8	33.4	75.3	79.8	37.5	30.9	68.5	92.3	53.0	33.4	86.4	63.1
23	41.8	33.4	75.2	79.8	37.6	31.0	68.7	92.3	52.9	33.4	86.4	63.1
24	41.7	33.4	75.4	79.8	37.5	30.9	68.5	92.3	53.0	33.4	86.5	63.1
25	41.7	33.3	75.1	79.8	37.8	31.1	68.9	92.3	52.8	33.3	86.2	63.1
26	41.7	33.3	75.1	79.9	37.8	31.1	69.0	92.3	52.9	33.3	86.2	63.1
27	41.8	33.4	75.2	79.9	37.7	31.0	68.7	92.3	52.9	33.4	86.3	63.1
28	41.7	31.0	72.7	74.3	37.9	28.9	66.9	76.2	52.7	31.0	83.7	58.7
29	41.6	27.5	69.1	66.2	38.1	25.7	63.8	67.4	52.6	27.5	80.2	52.3

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COMPUTED RELATIVE TOXICITY CONCENTRATIONS
LESLIE DISCHARGE INTO DP 26.SBDA INTO DP31
1985

	DRY				WET				CANNING			
SEGMENT	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.
30	40.1	21.3	61.5	53.0	37.1	19.7	56.8	53.0	50.8	21.3	72.1	41.9
31	41.4	21.9	63.4	53.0	38.3	20.3	58.7	53.0	52.4	21.9	74.4	41.9
32	33.7	17.9	51.6	53.0	30.8	16.3	47.2	53.0	42.7	17.	60.6	41.9
33	32.9	17.4	50.4	53.0	30.0	15.9	45.9	53.0	41.6	17.4	59.1	41.9
34	32.2	17.1	49.4	53.0	29.4	15.6	45.0	53.0	40.8	17.1	57.9	41.9
35	30.2	16.0	46.2	53.0	27.4	14.5	41.9	53.0	38.2	16.0	54.3	41.9
36	28.5	15.1	43.7	53.0	25.8	13.7	39.5	53.0	36.1	15.1	51.3	41.9
37	32.7	17.3	50.1	53.0	29.8	15.8	45.6	53.0	41.5	17.3	58.9	41.9
38	31.1	16.5	47.6	53.0	28.3	15.0	43.3	53.0	39.4	16.5	55.9	41.9
39	22.1	11.7	33.9	53.0	19.5	10.3	29.9	53.0	28.0	11.7	39.7	41.9
40	25.2	13.4	38.7	53.0	22.6	12.0	34.6	53.0	32.0	13.4	45.4	41.9
41	32.2	17.1	49.4	53.0	29.3	15.5	44.8	53.0	40.8	17.1	57.9	41.9
42	29.4	15.6	45.1	53.0	26.6	14.1	40.8	53.0	37.2	15.6	52.9	41.9
43	19.6	10.4	30.0	53.0	17.1	9.0	26.1	53.0	24.8	10.4	35.2	41.9
44	22.2	11.7	33.9	53.0	19.6	10.4	30.0	53.0	28.1	11.7	39.8	41.9
45	28.1	14.9	43.0	53.0	25.3	13.4	38.7	53.0	35.6	14.9	50.5	41.9
46	24.5	13.0	37.5	53.0	21.7	11.5	33.2	53.0	31.0	13.0	44.0	41.9
47	18.1	9.6	27.7	53.0	15.6	8.3	23.9	53.0	22.9	9.6	32.5	41.9
48	19.8	10.5	30.4	53.0	17.3	9.2	26.6	53.0	25.1	10.5	35.6	41.9
49	28.0	14.9	42.9	53.0	25.1	13.3	38.4	53.0	35.5	14.9	50.4	41.9
50	24.1	12.7	36.9	53.0	21.2	11.2	32.5	53.0	30.5	12.7	43.3	41.9
51	17.6	9.3	26.9	53.0	15.2	8.0	23.2	53.0	22.2	9.3	31.6	41.9
52	18.2	9.6	27.9	53.0	15.8	8.4	24.2	53.0	23.1	9.6	32.8	41.9
53	27.9	14.8	42.8	53.0	24.9	13.2	38.1	53.0	35.4	14.8	50.2	41.9
54	25.5	13.5	39.1	53.0	22.5	11.9	34.4	53.0	32.3	13.5	45.9	41.9
55	17.1	9.0	26.1	53.0	14.7	7.8	22.6	53.0	21.6	9.0	30.7	41.9
56	17.1	9.0	26.1	53.0	14.8	7.8	22.6	53.0	21.6	9.0	30.7	41.9
57	32.1	17.0	49.1	53.0	27.9	14.8	42.8	53.0	40.6	17.0	57.7	41.9
58	33.8	17.9	51.7	53.0	29.2	15.5	44.8	53.0	42.8	17.9	60.7	41.9

COMPUTED RELATIVE TOXICITY CONCENTRATIONS
LESLIE DISCHARGE INTO DP 26.SBDA INTO DP31
1985

	DRY				WET				CANNING			
SEGMENT	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.
59	16.4	8.7	25.1	53.0	14.1	7.5	21.7	53.0	20.8	8.7	29.5	41.9
60	15.6	8.2	23.8	53.0	13.4	7.1	20.5	53.0	19.7	8.2	28.0	41.9
61	31.8	16.9	48.7	53.0	27.6	14.6	42.3	53.0	40.3	16.9	57.2	41.9
62	17.3	9.1	26.4	53.0	14.9	7.9	22.9	53.0	21.8	9.1	31.0	41.9
63	16.3	8.6	24.9	53.0	14.0	7.4	21.4	53.0	20.5	8.6	29.1	41.9
64	13.6	7.2	20.8	53.0	11.7	6.2	17.9	53.0	17.2	7.2	24.5	41.9
65	30.1	15.9	46.1	53.0	26.3	13.9	40.3	53.0	38.1	15.9	54.1	41.9
66	22.0	11.7	33.8	53.0	19.2	10.1	29.4	53.0	27.9	11.7	39.6	41.9
67	15.1	8.0	23.2	53.0	13.1	6.9	20.1	53.0	19.2	8.0	27.2	41.9
68	12.6	6.7	19.3	53.0	10.9	5.8	16.7	53.0	16.0	6.7	22.7	41.9
69	26.8	14.2	41.0	53.0	23.6	12.5	36.1	53.0	33.9	14.2	48.1	41.9
70	21.5	11.4	33.0	53.0	18.9	10.0	28.9	53.0	27.2	11.4	38.7	41.9
71	10.6	5.6	16.2	53.0	9.2	4.9	14.1	53.0	13.3	5.6	19.0	41.9
72	9.6	5.1	14.8	53.0	8.4	4.4	12.8	53.0	12.2	5.1	17.4	41.9
73	22.3	11.8	34.2	53.0	19.7	10.4	30.2	53.0	28.3	11.8	40.1	41.9
74	14.4	7.6	22.0	53.0	13.1	6.9	20.1	53.0	18.2	7.6	25.9	41.9
75	8.3	4.4	12.7	53.0	7.4	3.9	11.3	53.0	10.5	4.4	14.9	41.9
76	10.5	5.6	16.1	53.0	10.1	5.4	15.5	53.0	13.3	5.6	18.9	41.9
77	8.3	4.4	12.7	53.0	7.9	4.2	12.2	53.0	10.5	4.4	14.9	41.9
78	4.8	2.5	7.4	53.0	4.6	2.4	7.1	53.0	6.1	2.5	8.7	41.9
79	4.8	2.5	7.4	53.0	4.6	2.4	7.1	53.0	6.1	2.5	8.7	41.9
80	8.1	4.3	12.4	53.0	7.9	4.1	12.1	53.0	10.2	4.3	14.5	41.9
81	6.0	3.1	9.2	53.0	5.8	3.1	9.0	53.0	7.6	3.1	10.8	41.9
82	3.9	2.0	5.9	53.0	3.8	2.0	5.8	53.0	4.9	2.0	7.0	41.9
93	4.1	2.2	6.3	53.0	4.0	2.1	6.2	53.0	5.2	2.2	7.4	41.9
94	3.2	1.7	5.0	53.0	3.2	1.7	4.9	53.0	4.1	1.7	5.9	41.9
95	2.9	1.5	4.5	53.0	2.9	1.5	4.4	53.0	3.7	1.5	5.3	41.9
96	2.7	1.4	4.2	53.0	2.7	1.4	4.2	53.0	3.5	1.4	5.0	41.9
97	1.5	0.7	2.2	53.0	1.4	0.7	2.1	53.0	1.9	0.7	2.5	41.9

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COMPUTED RELATIVE TOXICITY CONCENTRATIONS
LESLIE DISCHARGE INTO DP 26.SBDA INTO DP31
1985

	DRY				WET				CANNING			
SEGMENT	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.
88	2.4	1.2	3.6	53.0	2.3	1.2	3.5	53.0	2.9	1.2	4.2	41.9
89	1.7	0.9	2.7	53.0	1.7	0.9	2.6	53.0	2.2	0.9	3.2	41.9
90	1.2	0.6	1.8	53.0	1.2	0.6	1.9	53.0	1.5	0.6	2.2	41.9
91	1.2	0.6	1.8	53.0	1.2	0.6	1.9	53.0	1.5	0.6	2.2	41.9
92	0.9	0.5	1.4	53.0	0.9	0.5	1.4	53.0	1.2	0.5	1.7	41.9
93	0.4	0.2	0.6	53.0	0.4	0.2	0.7	53.0	0.6	0.2	0.8	41.9
94	0.1	0.0	0.2	53.0	0.1	0.0	0.2	53.0	0.1	0.0	0.2	41.9
95	0.5	0.2	0.8	53.0	0.4	0.2	0.7	53.0	0.6	0.2	0.9	41.9
96	0.3	0.1	0.4	53.0	0.2	0.1	0.4	53.0	0.3	0.1	0.5	41.9
97	0.4	0.2	0.6	53.0	0.4	0.2	0.7	53.0	0.5	0.2	0.8	41.9
98	44.4	35.4	79.8	79.8	0.0	0.0	0.0	82.3	56.2	35.4	91.7	63.1
99	44.4	35.4	79.8	79.8	1.3	1.0	2.3	82.3	56.2	35.4	91.7	63.1
100	44.4	35.4	79.8	79.8	9.5	7.9	17.5	82.3	56.2	35.4	91.7	63.1
101	44.4	35.4	79.8	79.8	17.6	14.5	32.1	82.3	56.2	35.4	91.7	63.1
102	44.4	35.4	79.8	79.8	24.5	20.2	44.9	82.3	56.2	35.4	91.7	63.1
103	44.3	35.4	79.7	79.8	0.2	0.1	0.3	82.3	56.1	35.4	91.5	63.1
104	44.3	35.4	79.7	79.8	1.2	1.0	2.3	82.3	56.1	35.4	91.5	63.1
105	44.3	35.4	79.7	79.8	8.9	7.3	16.2	82.3	56.1	35.4	91.5	63.1
106	44.3	35.4	79.7	79.8	15.5	12.8	28.4	82.3	56.1	35.4	91.5	63.1
107	44.3	35.4	79.7	79.8	18.9	15.5	34.4	82.3	56.1	35.4	91.5	63.1
108	44.3	35.4	79.7	79.8	20.9	17.2	38.1	82.3	56.1	35.4	91.5	63.1
109	44.3	35.4	79.7	79.8	22.9	18.9	41.8	82.3	56.1	35.4	91.5	63.1
110	44.3	35.4	79.7	79.8	24.8	20.4	45.3	82.3	56.1	35.4	91.5	63.1
111	44.3	35.4	79.7	79.8	26.7	22.0	48.7	82.3	56.1	35.4	91.5	63.1
112	44.3	35.4	79.7	79.8	28.0	23.1	51.2	82.3	56.1	35.4	91.5	63.1
113	43.7	34.9	78.6	79.8	20.3	16.7	37.0	82.3	55.3	34.9	90.2	63.1
114	43.7	34.9	78.6	79.8	27.0	22.2	49.2	82.3	55.3	34.9	90.2	63.1
115	43.7	34.9	78.6	79.8	30.0	24.7	54.7	82.3	55.3	34.9	90.2	63.1
116	43.7	34.9	78.6	79.8	31.1	25.6	56.7	82.3	55.3	34.9	90.2	63.1

COMPUTED RELATIVE TOXICITY CONCENTRATIONS
LESLIE DISCHARGE INTO DP 26.SBDA INTO DP31
1985

	DRY				WET				CANNING			
SEGMENT	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.
117	43.7	34.9	78.6	79.8	31.8	26.2	58.1	82.3	55.3	34.9	90.2	63.1
118	42.8	34.2	77.1	79.8	19.6	16.1	35.7	82.3	54.2	34.2	88.5	63.1
119	42.8	34.2	77.1	79.8	29.2	24.0	53.2	82.3	54.2	34.2	88.5	63.1
120	42.8	34.2	77.1	79.8	33.5	27.6	61.1	82.3	54.2	34.2	88.5	63.1
121	42.8	34.2	77.1	79.8	7.2	5.9	13.1	82.3	54.2	34.2	88.5	63.1
122	42.8	34.2	77.1	79.8	17.4	14.3	31.7	82.3	54.2	34.2	88.5	63.1
123	42.8	34.2	77.1	79.8	24.0	19.7	43.7	82.3	54.2	34.2	88.5	63.1
124	42.8	34.2	77.1	79.8	30.2	24.9	55.1	82.3	54.2	34.2	88.5	63.1
125	42.8	34.2	77.1	79.8	34.0	28.0	62.0	82.3	54.2	34.2	88.5	63.1
126	42.0	33.5	75.6	79.8	16.2	13.3	29.5	82.3	53.1	33.5	86.7	63.1
127	42.0	33.5	75.6	79.8	32.9	27.1	60.0	82.3	53.1	33.5	86.7	63.1
128	42.0	33.5	75.6	79.8	36.4	30.0	66.4	82.3	53.1	33.5	86.7	63.1
129	42.0	33.5	75.6	79.8	2.2	1.8	4.0	82.3	53.1	33.5	86.7	63.1
130	42.0	33.5	75.6	79.8	13.2	10.9	24.1	82.3	53.1	33.5	86.7	63.1
131	42.0	33.5	75.6	79.8	23.3	19.2	42.5	82.3	53.1	33.5	86.7	63.1
132	42.0	33.5	75.6	79.8	32.5	26.7	59.2	82.3	53.1	33.5	86.7	63.1
133	42.0	33.5	75.6	79.8	36.1	29.7	65.8	82.3	53.1	33.5	86.7	63.1
134	42.0	33.5	75.6	79.8	37.0	30.4	67.4	82.3	53.1	33.5	86.7	63.1
135	41.8	33.4	75.2	79.8	36.0	29.6	65.6	82.3	52.9	33.4	86.4	63.1
136	41.8	33.4	75.2	79.8	36.5	30.1	66.7	82.3	52.9	33.4	86.4	63.1
137	41.8	33.4	75.2	79.8	37.0	30.5	67.5	82.3	52.9	33.4	86.4	63.1
138	41.8	33.4	75.2	79.8	37.3	30.7	68.1	82.3	52.9	33.4	86.4	63.1
139	41.8	33.4	75.2	79.8	37.5	30.9	68.4	82.3	52.9	33.4	86.4	63.1
140	42.2	33.7	76.0	79.8	34.9	28.6	63.4	82.3	53.5	33.7	87.3	63.1
141	42.2	33.7	76.0	79.8	36.7	30.2	66.9	82.3	53.5	33.7	87.3	63.1

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COMPUTED RELATIVE TOXICITY CONCENTRATIONS
LESLIE DISCHARGE INTO DP 31.SBDA INTO DP31
1985

	DRY				WET				CANNING			
SEGMENT	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.
1	44.2	23.4	67.7	53.0	28.9	15.3	44.2	53.0	56.0	23.4	79.4	41.9
2	43.9	23.3	67.2	53.0	31.1	16.5	47.6	53.0	55.6	23.3	78.9	41.9
3	43.7	23.1	66.9	53.0	32.5	17.2	49.7	53.0	55.3	23.1	78.5	41.9
4	43.4	23.0	66.4	53.0	33.6	17.8	51.4	53.0	55.0	23.0	78.0	41.9
5	43.1	22.9	66.0	53.0	34.5	18.3	52.8	53.0	54.6	22.9	77.5	41.9
6	42.8	22.7	65.6	53.0	35.3	18.7	54.0	53.0	54.2	22.7	77.0	41.9
7	42.6	22.6	65.2	53.0	35.9	19.0	55.0	53.0	53.9	22.6	76.6	41.9
8	42.5	22.6	65.1	53.0	36.2	19.2	55.4	53.0	53.8	22.5	76.3	41.9
9	42.2	22.4	64.7	53.0	36.8	19.5	56.4	53.0	53.5	22.4	75.9	41.9
10	42.3	22.4	64.7	53.0	36.8	19.5	56.3	53.0	53.5	22.4	75.9	41.9
11	42.1	22.3	64.4	53.0	37.1	19.7	56.8	53.0	53.3	22.3	75.7	41.9
12	42.1	22.3	64.4	53.0	37.1	19.7	56.8	53.0	53.3	22.3	75.7	41.9
13	42.0	22.3	64.3	53.0	37.4	19.8	57.3	53.0	53.2	22.3	75.5	41.9
14	42.0	22.3	64.3	53.0	37.4	19.8	57.2	53.0	53.2	22.3	75.5	41.9
15	42.0	22.3	64.3	53.0	37.3	19.8	57.1	53.0	53.2	22.3	75.5	41.9
16	42.0	22.3	64.3	53.0	37.4	19.8	57.3	53.0	53.1	22.2	75.4	41.9
17	41.9	22.2	64.2	53.0	37.4	19.8	57.3	53.0	53.1	22.2	75.4	41.9
18	41.9	22.2	64.2	53.0	37.4	19.8	57.3	53.0	53.1	22.2	75.4	41.9
19	41.8	22.2	64.1	53.0	37.5	19.9	57.4	53.0	53.0	22.2	75.2	41.9
20	41.9	22.2	64.1	53.0	37.5	19.9	57.4	53.0	53.0	22.2	75.3	41.9
21	41.9	22.2	64.2	53.0	37.4	19.8	57.3	53.0	53.1	22.2	75.4	41.9
22	41.8	22.2	64.0	53.0	37.5	19.9	57.4	53.0	53.0	22.2	75.2	41.9
23	41.8	22.2	64.0	53.0	37.6	19.9	57.6	53.0	52.9	22.2	75.1	41.9
24	41.9	22.2	64.1	53.0	37.5	19.9	57.5	53.0	53.0	22.2	75.2	41.9
25	41.7	22.1	63.8	53.0	37.8	20.0	57.8	53.0	52.8	22.1	75.0	41.9
26	41.7	22.1	63.8	53.0	37.9	20.0	57.9	53.0	52.8	22.1	75.0	41.9
27	41.8	22.1	64.0	53.0	37.7	20.0	57.7	53.0	52.9	22.1	75.1	41.9
28	41.7	22.1	63.8	53.0	37.9	20.1	58.0	53.0	52.7	22.1	74.9	41.9
29	41.6	22.0	63.6	53.0	38.1	20.2	58.3	53.0	52.6	22.0	74.7	41.9

COMPUTED RELATIVE TOXICITY CONCENTRATIONS
LESLIE DISCHARGE INTO DP 31.SBDA INTO DP31
1985

	DRY				WET				CANNING			
SEGMENT	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.
30	40.1	21.3	61.4	53.0	37.1	19.7	56.8	53.0	50.8	21.3	72.1	41.9
31	41.4	21.9	63.4	53.0	38.3	20.3	58.7	53.0	52.4	21.9	74.3	41.9
32	33.7	17.9	51.6	53.0	30.8	16.3	47.2	53.0	42.7	17.9	60.6	41.9
33	32.9	17.4	50.3	53.0	30.0	15.9	45.9	53.0	41.6	17.4	59.1	41.9
34	32.2	17.1	49.3	53.0	29.4	15.6	45.0	53.0	40.8	17.1	57.9	41.9
35	30.2	16.0	46.2	53.0	27.4	14.5	41.9	53.0	38.2	16.0	54.3	41.9
36	28.6	15.1	43.7	53.0	25.9	13.7	39.5	53.0	36.1	15.1	51.3	41.9
37	32.7	17.3	50.1	53.0	29.8	15.8	45.6	53.0	41.5	17.3	58.9	41.9
38	31.1	16.5	47.6	53.0	28.3	15.0	43.3	53.0	39.4	16.5	55.9	41.9
39	22.1	11.7	33.8	53.0	19.5	10.3	29.8	53.0	28.0	11.7	39.7	41.9
40	25.3	13.4	38.7	53.0	22.6	12.0	34.6	53.0	32.0	13.4	45.4	41.9
41	32.2	17.1	49.3	53.0	29.3	15.5	44.8	53.0	40.8	17.1	57.9	41.9
42	29.5	15.6	45.1	53.0	26.6	14.1	40.7	53.0	37.2	15.6	52.9	41.9
43	19.6	10.4	30.0	53.0	17.1	9.0	26.1	53.0	24.9	10.4	35.2	41.9
44	22.1	11.7	33.8	53.0	19.6	10.4	30.0	53.0	28.1	11.7	39.8	41.9
45	28.1	14.9	43.0	53.0	25.3	13.4	38.7	53.0	35.6	14.9	50.5	41.9
46	24.7	13.1	37.8	53.0	21.7	11.5	33.2	53.0	31.0	13.0	44.0	41.9
47	18.1	9.6	27.7	53.0	15.6	8.3	23.9	53.0	22.9	9.6	32.5	41.9
48	19.8	10.5	30.3	53.0	17.3	9.2	26.6	53.0	25.1	10.5	35.6	41.9
49	28.0	14.8	42.8	53.0	25.1	13.3	38.4	53.0	35.5	14.	50.4	41.9
50	24.1	12.7	36.8	53.0	21.2	11.2	32.5	53.0	30.5	12.7	43.3	41.9
51	17.6	9.3	26.9	53.0	15.2	8.0	23.2	53.0	22.2	9.3	31.6	41.9
52	18.2	9.6	27.8	53.0	15.8	8.4	24.2	53.0	23.1	9.6	32.8	41.9
53	27.9	14.8	42.7	53.0	24.9	13.2	38.1	53.0	35.4	14.8	50.2	41.9
54	25.5	13.5	39.1	53.0	22.5	11.9	34.4	53.0	32.3	13.5	45.9	41.9
55	17.1	9.0	26.1	53.0	14.7	7.8	22.5	53.0	21.6	9.0	30.7	41.9
56	17.1	9.0	26.1	53.0	14.8	7.8	22.6	53.0	21.6	9.0	30.7	41.9
57	32.1	17.0	49.1	53.0	27.9	14.8	42.7	53.0	40.6	17.0	57.7	41.9
58	33.8	17.9	51.7	53.0	29.2	15.5	44.7	53.0	42.8	17.9	60.7	41.9

COMPUTED RELATIVE TOXICITY CONCENTRATIONS
LESLIE DISCHARGE INTO DP 31,SBDA INTO DP31
1985

	DRY				WET				CANNING			
SEGMENT	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.
59	16.4	8.7	25.1	53.0	14.1	7.5	21.7	53.0	20.8	8.7	29.5	41.9
60	15.6	8.2	23.8	53.0	13.4	7.1	20.6	53.0	19.7	8.2	28.0	41.9
61	31.8	16.9	48.7	53.0	27.6	14.6	42.3	53.0	40.3	16.9	57.2	41.9
62	17.7	9.1	26.8	53.0	14.9	7.9	22.9	53.0	21.8	9.1	31.0	41.9
63	16.2	8.6	24.8	53.0	14.0	7.4	21.4	53.0	20.5	8.6	29.1	41.9
64	13.6	7.2	20.8	53.0	11.7	6.2	17.9	53.0	17.2	7.2	24.5	41.9
65	30.1	15.9	46.1	53.0	26.3	13.9	40.3	53.0	38.1	15.9	54.1	41.9
66	22.0	11.7	33.8	53.0	19.2	10.1	29.4	53..	27.9	11.7	39.6	41.9
67	15.1	8.0	23.2	53.0	13.1	6.9	20.1	53.0	19.2	8.0	27.2	41.9
68	12.6	6.7	19.3	53.0	10.9	5.8	16.7	53.0	16.0	6.7	22.7	41.9
69	26.8	14.2	41.0	53.0	23.6	12.5	36.1	53.0	33.9	14.2	48.1	41.9
70	21.5	11.4	33.0	53.0	19.9	10.0	29.9	53.0	27.2	11.4	38.7	41.9
71	10.8	5.6	16.5	53.0	9.2	4.9	14.1	53.0	13.3	5.6	19.0	41.9
72	9.6	5.1	14.8	53.0	8.4	4.4	12.9	53.0	12.2	5.1	17.4	41.9
73	22.3	11.8	34.2	53.0	19.7	10.4	30.2	53.0	28.3	11.8	40.1	41.9
74	14.4	7.6	22.0	53.0	13.1	6.9	20.1	53.0	18.2	7.6	25.9	41.9
75	8.3	4.4	12.7	53.0	7.4	3.9	11.3	53.0	10.5	4.4	14.9	41.9
76	10.5	5.6	16.1	53.0	10.1	5.4	15.5	53.0	13.3	5.6	18.9	41.9
77	8.3	4.4	12.7	53.0	7.9	4.2	12.2	53.0	10.5	4.4	14.9	41.9
78	4.9	2.5	7.4	53.0	4.6	2.4	7.1	53.0	6.1	2.5	8.7	41.9
79	4.9	2.5	7.4	53.0	4.6	2.4	7.1	53.0	6.1	2.5	8.7	41.9
80	8.1	4.3	12.4	53.0	7.9	4.1	12.1	53.0	10.2	4.3	14.5	41.9
81	6.0	3.1	9.2	53.0	5.8	3.1	9.0	53.0	7.6	3.1	10.8	41.9
82	3.8	2.0	5.8	53.0	3.8	2.0	5.8	53.0	4.9	2.0	7.0	41.9
83	4.1	2.2	6.3	53.0	4.0	2.1	6.2	53.0	5.2	2.2	7.4	41.9
84	3.2	1.7	5.0	53.0	3.2	1.7	4.9	53.0	4.1	1.7	5.9	41.9
85	2.9	1.5	4.5	53.0	2.9	1.5	4.4	53.0	3.7	1.5	5.3	41.9
86	2.7	1.4	4.2	53.0	2.7	1.4	4.2	53.0	3.5	1.4	5.0	41.9
87	1.5	0.7	2.2	53.0	1.4	0.7	2.1	53.0	1.9	0.7	2.6	41.9

COMPUTED RELATIVE TOXICITY CONCENTRATIONS
LESLIE DISCHARGE INTO DP 31,SBDA INTO DP31
1985

	DRY				WET				CANNING			
SEGMENT	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.
88	2.3	1.2	3.6	53.0	2.3	1.2	3.5	53.0	2.9	1.2	4.2	41.9
89	1.7	0.9	2.7	53.0	1.7	0.9	2.6	53.0	2.2	0.9	3.2	41.9
90	1.2	0.6	1.9	53.0	1.2	0.6	1.9	53.0	1.5	0.6	2.2	41.9
91	1.2	0.6	1.9	53.0	1.2	0.6	1.9	53.0	1.5	0.6	2.2	41.9
92	0.9	0.5	1.4	53.0	0.9	0.5	1.4	53.0	1.2	0.5	1.7	41.9
93	0.4	0.2	0.6	53.0	0.4	0.2	0.7	53.0	0.5	0.2	0.8	41.9
94	0.1	0.0	0.2	53.0	0.1	0.0	0.2	53.0	0.1	0.	0.2	41.9
95	0.5	0.2	0.8	53.0	0.4	0.2	0.7	53.0	0.6	0.2	0.9	41.9
96	0.3	0.1	0.4	53.0	0.2	0.1	0.4	53.0	0.3	0.1	0.5	41.9
97	0.4	0.2	0.6	53.0	0.4	0.2	0.7	53.0	0.5	0.2	0.8	41.9
98	44.4	23.5	67.9	53.0	0.0	0.0	0.0	53.0	56.2	23.5	79.7	41.9
99	44.4	23.5	67.9	53.0	1.3	0.6	1.9	53.0	56.2	23.5	79.7	41.9
100	44.4	23.5	67.9	53.0	9.5	5.0	14.5	53.0	56.2	23.5	79.7	41.9
101	44.4	23.5	67.9	53.0	17.6	9.3	26.9	53.0	56.2	23.5	79.7	41.9
102	44.4	23.5	67.9	53.0	24.5	13.0	37.6	53.0	56.2	23.	79.7	41.9
103	44.3	23.5	67.8	53.0	0.2	0.1	0.3	53.0	56.1	23.5	79.6	41.9
104	44.3	23.5	67.8	53.0	1.2	0.6	1.9	53.0	56.1	23.5	79.6	41.9
105	44.3	23.5	67.8	53.0	8.9	4.7	13.6	53.0	56.1	23.5	79.6	41.9
106	44.3	23.5	67.8	53.0	15.5	8.2	23.8	53.0	56.1	23.5	79.6	41.9
107	44.3	23.5	67.8	53.0	18.9	10.0	28.9	53.0	56.1	23.5	79.6	41.9
108	44.3	23.5	67.8	53.0	20.9	11.1	32.0	53.0	56.1	23.5	79.6	41.9
109	44.3	23.5	67.8	53.0	22.9	12.1	35.0	53.0	56.1	23.5	79.6	41 9
110	44.3	23.5	67.8	53.0	24.8	13.1	38.0	53.0	56.1	23.5	79.6	41.9
111	44.3	23.5	67.8	53.0	26.7	14.2	40.9	53.0	56.1	23.5	79.6	41.9
112	44.3	23.5	67.8	53.0	28.0	14.9	43.0	53.0	56.1	23.5	79.6	41.9
113	43.7	23.1	66.9	53.0	20.3	10.7	31.1	53.0	55.3	23.1	78.5	41.9
114	43.7	23.1	66.9	53.0	27.0	14.3	41.3	53.0	55.3	23.1	78.5	41.9
115	43.7	23.1	66.9	53.0	30.0	15.9	45.9	53.0	55.3	23.1	78.5	41.9
116	43.7	23.1	66.9	53.0	31.1	16.5	47.6	53.0	55.3	23.1	78.5	41.9

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COMPUTED RELATIVE TOXICITY CONCENTRATIONS
LESLIE DISCHARGE INTO DP 31,SBDA INTO DP31
1985

	DRY				WET				CANNING			
SEGMENT	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.
117	43.7	23.1	66.8	53.0	31.9	16.9	48.8	53.0	55.3	23.1	78.5	41.9
118	42.8	22.7	65.6	53.0	19.6	10.4	30.0	53.0	54.2	22.7	77.0	41.9
119	42.8	22.7	65.6	53.0	29.2	15.5	44.7	53.0	54.2	22.7	77.0	41.9
120	42.8	22.7	65.6	53.0	33.5	17.8	51.3	53.0	54.2	22.7	77.0	41.9
121	42.8	22.7	65.6	53.0	7.2	3.8	11.0	53.0	54.2	22.7	77.0	41.9
122	42.8	22.7	65.6	53.0	17.4	9.2	26.7	53.0	54.2	22.7	77.0	41.9
123	42.8	22.7	65.6	53.0	24.0	12.7	36.7	53.0	54.2	22.7	77.0	41.9
124	42.8	22.7	65.6	53.0	30.2	16.0	46.3	53.0	54.2	22.7	77.0	41.9
125	42.8	22.7	65.6	53.0	34.0	18.0	52.1	53.0	54.2	22.7	77.0	41.9
126	42.0	22.2	64.3	53.0	16.2	8.6	24.8	53.0	53.1	22.2	75.4	41.9
127	42.0	22.2	64.3	53.0	32.9	17.4	50.3	53.0	53.1	22.2	75.4	41.9
128	42.0	22.2	64.3	53.0	36.4	19.3	55.7	53.0	53.1	22.2	75.4	41.9
129	42.0	22.2	64.3	53.0	2.2	1.1	3.3	53.0	53.1	22.2	75.4	41.9
130	42.0	22.2	64.3	53.0	13.2	7.0	20.2	53.0	53.1	22.2	75.4	41.9
131	42.0	22.2	64.3	53.0	23.3	12.3	35.7	53.0	53.1	22.2	75.4	41.9
132	42.0	22.2	64.3	53.0	32.5	17.2	49.7	53.0	53.1	22.2	75.4	41.9
133	42.0	22.2	64.3	53.0	36.1	19.1	55.3	53.0	53.1	22.2	75.4	41.9
134	42.0	22.2	64.3	53.0	37.0	19.6	56.6	53.0	53.1	22.2	75.4	41.9
135	41.8	22.2	64.0	53.0	36.0	19.1	55.1	53.0	52.9	22.2	75.1	41.9
136	41.8	22.2	64.0	53.0	36.5	19.4	55.9	53.0	52.9	22.2	75.1	41.9
137	41.8	22.2	64.0	53.0	37.0	19.6	56.7	53.0	52.9	22.2	75.1	41.9
138	41.8	22.2	64.0	53.0	37.3	19.9	57.2	53.0	52.9	22.2	75.1	41.9
139	41.8	22.2	64.0	53.0	37.5	19.9	57.5	53.0	52.9	22.2	75.1	41.9
140	42.2	22.4	64.7	53.0	34.8	18.4	53.3	53.0	53.5	22.4	75.9	41.9
141	42.2	22.4	64.7	53.0	36.7	19.4	56.1	53.0	53.5	22.4	75.9	41.9

COMPUTED RELATIVE TOXICITY CONCENTRATIONS
LESLIE DISCHARGE INTO DP 26,SBDA INTO DP31
1995

	DRY				WET				CANNING			
SEGMENT	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.
1	52.6	35.3	87.9	67.1	34.4	23.8	58.2	69.2	63.3	35.3	98.6	55.8
2	52.3	35.1	87.4	67.1	37.0	25.6	62.5	69.2	62.8	35.1	97.9	55.8
3	52.0	34.9	86.9	67.1	38.7	26.8	65.6	69.2	62.5	34.9	97.4	55.8
4	51.7	34.7	86.4	67.1	40.0	27.7	67.7	69.2	62.1	34.7	96.8	55.8
5	51.5	34.6	86.1	67.1	41.1	28.4	69.5	69.2	61.7	34.4	96.2	55.8
6	51.0	34.2	85.2	67.1	42.0	29.0	71.0	69.2	61.3	34.2	95.6	55.8
7	50.7	34.0	84.7	67.1	42.8	29.6	72.4	69.2	61.0	34.0	95.0	55.8
8	50.6	33.9	84.6	67.1	43.1	29.8	72.9	69.2	60.6	33.9	94.5	55.8
9	50.3	33.7	84.0	67.1	43.9	30.3	74.2	69.2	60.4	33.7	94.2	55.8
10	50.4	33.7	84.1	67.1	43.8	30.3	74.1	69.2	60.5	33.7	94.3	55.8
11	50.2	33.6	83.8	67.1	44.1	30.5	74.7	69.2	60.3	33.6	94.0	55.8
12	50.1	33.6	83.7	67.1	44.2	30.5	74.7	69.2	60.3	33.6	93.9	55.8
13	50.0	33.5	83.5	67.1	44.5	30.8	75.4	69.2	60.1	33.5	93.7	55.8
14	50.0	33.5	83.6	67.1	44.5	30.8	75.3	69.2	60.1	33.5	93.7	55.8
15	50.0	33.6	83.6	67.1	44.4	30.7	75.1	69.2	60.1	33.6	93.7	55.8
16	50.0	33.5	83.5	67.1	44.6	30.9	75.4	69.2	60.1	33.5	93.7	55.8
17	49.9	33.5	83.4	67.1	44.6	30.8	75.4	69.2	60.0	33.5	93.6	55.8
18	49.9	33.5	83.4	67.1	44.5	30.8	75.4	69.2	60.0	33.5	93.6	55.8
19	49.8	33.4	83.2	67.1	44.6	30.9	75.5	69.2	59.9	33.4	93.3	55.8
20	49.9	33.5	83.4	67.1	44.6	30.9	75.6	69.2	59.9	33.5	93.4	55.8
21	49.9	33.5	83.4	67.1	44.5	30.8	75.4	69.2	60.0	33.5	93.6	55.8
22	49.8	33.4	83.2	67.1	44.6	30.9	75.6	69.2	59.9	33.4	93.3	55.8
23	49.7	33.4	83.1	67.1	44.9	31.0	75.9	69.2	59.8	33.4	93.3	55.8
24	49.7	33.4	83.1	67.1	44.7	30.9	75.6	69.2	59.9	33.4	93.4	55.8
25	49.7	33.3	83.0	67.1	44.9	31.1	76.1	69.2	59.7	33.3	93.1	55.8
26	49.6	33.3	83.0	67.1	45.0	31.1	76.2	69.2	59.7	33.3	93.1	55.8
27	49.7	33.4	83.1	67.1	44.8	31.0	75.9	69.2	59.8	33.4	93.2	55.8
28	49.6	31.0	80.6	62.4	45.1	28.9	74.1	64.0	59.6	31.0	90.6	51.9
29	49.5	27.5	77.0	55.7	45.3	25.7	71.0	56.7	59.5	27.6	87.1	46.3

COMPUTED RELATIVE TOXICITY CONCENTRATIONS
LESLIE DISCHARGE INTO DP 26.SBDA INTO DP31
1995

	DRY				WET				CANNING			
SEGMENT	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.
30	47.8	21.3	69.1	44.5	44.2	19.7	63.9	44.5	57.4	21.3	78.7	37.0
31	49.3	21.9	71.2	44.5	45.6	20.3	66.0	44.5	59.3	21.9	81.3	37.0
32	40.1	17.8	58.0	44.5	36.7	16.3	53.1	44.5	48.2	17.9	66.2	37.0
33	39.1	17.4	56.6	44.5	35.7	15.9	51.6	44.5	47.1	17.4	64.5	37.0
34	38.4	17.1	55.5	44.5	35.0	15.6	50.6	44.5	46.1	17.1	63.3	37.0
35	35.9	16.0	52.0	44.5	32.6	14.5	47.1	44.5	43.2	16.0	59.3	37.0
36	34.0	15.1	49.2	44.5	30.7	13.7	44.4	44.5	40.9	15.1	56.0	37.0
37	39.1	17.4	56.5	44.5	35.5	15.8	51.3	44.5	46.9	17.3	64.3	37.0
38	37.0	16.5	53.5	44.5	33.7	15.0	48.7	44.5	44.5	16.5	61.0	37.0
39	26.4	11.7	38.1	44.5	23.2	10.3	33.6	44.5	31.6	11.7	43.4	37.0
40	30.1	13.4	43.5	44.5	26.9	12.0	38.9	44.5	36.1	13.4	49.6	37.0
41	38.4	17.1	55.5	44.5	34.8	15.5	50.4	44.5	46.1	17.1	63.3	37.0
42	35.0	15.6	50.6	44.5	31.7	14.1	45.9	44.5	42.1	15.6	57.7	37.0
43	23.3	10.4	33.7	44.5	20.3	9.0	29.4	44.5	28.0	10.4	38.4	37.0
44	26.4	11.7	38.2	44.5	23.3	10.4	33.7	44.5	31.7	11.7	43.5	37.0
45	33.6	15.0	48.5	44.5	30.1	13.4	43.5	44.5	40.2	14.9	55.1	37.0
46	29.3	13.0	42.3	44.5	25.8	11.5	37.3	44.5	35.1	13.0	48.1	37.0
47	21.5	9.6	31.1	44.5	18.6	8.3	26.9	44.5	25.8	9.	35.4	37.0
48	23.6	10.5	34.1	44.5	20.6	9.2	29.9	44.5	28.4	10.5	38.9	37.0
49	33.5	14.9	48.4	44.5	29.8	13.3	43.2	44.5	40.1	14.9	55.0	37.0
50	28.6	12.7	41.3	44.5	25.3	11.2	36.6	44.5	34.4	12.7	47.2	37.0
51	20.9	9.3	30.2	44.5	18.1	8.0	26.1	44.5	25.1	9.3	34.5	37.0
52	21.7	9.6	31.4	44.5	18.9	8.4	27.3	44.5	26.1	9.6	35.8	37.0
53	33.3	14.8	48.1	44.5	29.6	13.2	42.9	44.5	40.0	14.8	54.8	37.0
54	30.4	13.5	44.0	44.5	26.9	11.9	38.7	44.5	36.5	13.5	50.1	37.0
55	20.3	9.0	29.3	44.5	17.5	7.8	25.4	44.5	24.4	9.0	33.5	37.0
56	20.4	9.0	29.4	44.5	17.6	7.8	25.4	44.5	24.4	9.0	33.5	37.0
57	38.2	17.0	55.2	44.5	33.2	14.8	48.1	44.5	45.9	17.0	63.0	37.0
58	40.2	17.9	58.1	44.5	34.8	15.5	50.3	44.5	48.3	17.9	66.3	37.0

COMPUTED RELATIVE TOXICITY CONCENTRATIONS
LESLIE DISCHARGE INTO DP 26.SBDA INTO DP31
1995

	DRY				WET				CANNING			
SEGMENT	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.
59	19.6	8.7	28.3	44.5	16.9	7.5	24.4	44.5	23.5	8.7	32.2	37.0
60	18.4	8.2	26.6	44.5	16.0	7.1	23.1	44.5	22.3	8.2	30.5	37.0
61	37.4	16.6	54.0	44.5	32.9	14.6	47.5	44.5	45.6	16.9	62.5	37.0
62	20.6	9.1	29.7	44.5	17.8	7.9	25.7	44.5	24.7	9.1	33.9	37.0
63	19.3	8.6	27.9	44.5	16.6	7.4	24.1	44.5	23.2	8.6	31.8	37.0
64	16.2	7.2	23.4	44.5	13.9	6.2	20.2	44.5	19.5	7.2	26.7	37.0
65	35.8	15.9	51.8	44.5	31.3	13.9	45.3	44.5	43.1	15.9	59.0	37.0
66	26.3	11.7	38.0	44.5	22.8	10.1	33.0	44.5	31.6	11.7	43.3	37.0
67	18.0	8.0	26.1	44.5	15.6	6.9	22.5	44.5	21.7	8.0	29.7	37.0
68	15.0	6.7	21.7	44.5	13.0	5.8	18.8	44.5	18.1	6.7	24.8	37.0
69	31.9	14.2	46.1	44.5	28.1	12.5	40.6	44.5	39.3	14.5	53.8	37.0
70	25.6	11.4	37.0	44.5	22.5	10.0	32.5	44.5	30.8	11.4	42.2	37.0
71	12.6	5.6	18.2	44.5	11.0	4.9	15.9	44.5	15.1	5.6	20.7	37.0
72	11.5	5.1	16.6	44.5	10.0	4.4	14.5	44.5	13.8	5.1	18.9	37.0
73	26.6	11.8	38.4	44.5	23.5	10.4	33.9	44.5	31.9	11.8	43.7	37.0
74	17.1	7.6	24.7	44.5	15.6	6.9	22.5	44.5	20.6	7.6	28.3	37.0
75	9.8	4.4	14.2	44.5	8.8	3.9	12.7	44.5	11.8	4.4	16.2	37.0
76	12.5	5.6	18.1	44.5	12.1	5.4	17.5	44.5	15.1	5.6	20.7	37.0
77	9.9	4.4	14.3	44.5	9.5	4.2	13.7	44.5	11.9	4.4	16.3	37.0
78	6.2	2.8	9.0	44.5	5.5	2.4	8.0	44.5	6.9	2.5	9.5	37.0
79	6.2	2.8	9.0	44.5	5.5	2.4	8.0	44.5	6.9	2.5	9.5	37.0
80	9.6	4.3	13.9	44.5	9.5	4.1	13.6	44.5	11.6	4.3	15.9	37.0
81	7.1	3.2	10.3	44.5	6.9	3.1	10.1	44.5	8.6	3.2	11.8	37.0
82	4.6	2.0	6.7	44.5	4.5	2.0	6.5	44.5	5.6	2.0	7.6	37.0
83	4.9	2.2	7.1	44.5	4.8	2.1	7.0	44.5	5.9	2.2	8.1	37.0
84	3.9	1.7	5.6	44.5	3.8	1.7	5.5	44.5	4.6	1.7	6.3	37.0
85	3.5	1.6	5.1	44.5	3.4	1.5	5.0	44.5	4.2	1.5	5.8	37.0
86	3.3	1.5	4.8	44.5	3.2	1.4	4.7	44.5	4.0	1.5	5.5	37.0
87	1.7	0.7	2.5	44.5	1.6	0.7	2.4	44.5	2.1	0.8	2.9	37.0

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C-268

COMPUTED RELATIVE TOXICITY CONCENTRATIONS
LESLIE DISCHARGE INTO DP 26,SODA INTO DP31
1995

	DRY				WET				CANNING			
SEGMENT	SODA	LESLIE SALT	TOTAL	PERC. INCR.	SODA	LESLIE SALT	TOTAL	PERC. INCR.	SODA	LESLIE SALT	TOTAL	PERC. INCR.
88	2.8	1.2	4.0	44.5	2.7	1.2	3.9	44.5	3.3	1.2	4.6	37.0
89	2.1	0.9	3.0	44.5	2.0	0.9	3.0	44.5	2.5	0.9	3.4	37.0
90	1.4	0.6	2.1	44.5	1.8	0.8	2.6	44.5	1.7	0.6	2.4	37.0
91	1.4	0.6	2.1	44.5	1.4	0.6	2.0	44.5	1.7	0.6	2.4	37.0
92	1.1	0.5	1.6	44.5	1.1	0.5	1.6	44.5	1.3	0.5	1.8	37.0
93	0.5	0.2	0.7	44.5	0.5	0.2	0.7	44.5	0.6	0.2	0.8	37.0
94	0.1	0.0	0.2	44.5	0.1	0.0	0.2	44.5	0.2	0.0	0.3	37.0
95	0.6	0.2	0.9	44.5	0.5	0.2	0.9	44.5	0.7	0.2	1.0	37.0
96	0.3	0.1	0.5	44.5	0.3	0.1	0.5	44.5	0.4	0.1	0.5	37.0
97	0.5	0.2	0.7	44.5	0.5	0.2	0.7	44.5	0.6	0.2	0.8	37.0
98	52.8	35.4	88.3	67.1	0.0	0.0	0.1	69.2	63.5	35.4	99.0	55.8
99	52.8	35.4	88.3	67.1	1.5	1.0	2.5	69.2	63.5	35.4	99.0	55.8
100	52.8	35.4	88.3	67.1	11.3	7.9	19.1	69.2	63.5	35.4	99.0	55.8
101	52.8	35.4	88.3	67.1	20.9	14.5	35.5	69.2	63.5	35.4	99.0	55.8
102	52.8	35.4	88.3	67.1	29.2	20.2	49.5	69.2	63.5	35.4	99.0	55.8
103	52.7	35.4	88.1	67.1	0.2	0.1	0.4	69.2	63.4	35.4	98.8	55.8
104	52.7	35.4	88.1	67.1	1.5	1.0	2.5	69.2	63.4	35.4	98.8	55.8
105	52.7	35.4	88.1	67.1	10.5	7.3	17.9	69.2	63.4	35.4	98.8	55.8
106	52.7	35.4	88.1	67.1	18.5	12.9	31.3	69.2	63.4	35.4	98.8	55.8
107	52.7	35.4	88.1	67.1	22.5	15.5	38.1	69.2	63.4	35.4	98.8	55.8
108	52.7	35.4	88.1	67.1	24.9	17.2	42.1	69.2	63.4	35.4	98.8	55.8
109	52.7	35.4	88.1	67.1	27.2	18.8	46.1	69.2	63.4	35.4	98.8	55.8
110	52.7	35.4	88.1	67.1	29.5	20.4	50.0	69.2	63.4	35.4	98.8	55.8
111	52.7	35.4	88.1	67.1	31.8	22.0	53.9	69.2	63.4	35.4	98.8	55.8
112	52.7	35.4	88.1	67.1	33.4	23.1	56.5	69.2	63.4	35.4	98.8	55.8
113	52.0	34.9	86.9	67.1	24.1	16.7	40.9	69.2	62.5	34.9	97.4	55.8
114	52.0	34.9	86.9	67.1	32.1	22.2	54.4	69.2	62.5	34.9	97.4	55.8
115	52.0	34.9	86.9	67.1	35.7	24.7	60.5	69.2	62.5	34.9	97.4	55.8
116	52.0	34.9	86.9	67.1	37.0	25.6	62.7	69.2	62.5	34.9	97.4	55.8

COMPUTED RELATIVE TOXICITY CONCENTRATIONS
LESLIE DISCHARGE INTO DP 26,SODA INTO DP31
1995

	DRY				WET				CANNING			
SEGMENT	SODA	LESLIE SALT	TOTAL	PERC. INCR.	SODA	LESLIE SALT	TOTAL	PERC. INCR.	SODA	LESLIE SALT	TOTAL	PERC. INCR.
117	52.0	34.9	86.9	67.1	37.9	26.2	64.2	69.2	62.5	34.9	97.4	55.8
118	51.0	34.2	85.2	67.1	23.3	16.1	39.5	69.2	61.3	34.2	95.6	55.8
119	51.0	34.2	85.2	67.1	34.7	24.0	58.7	69.2	61.3	34.2	95.6	55.8
120	51.0	34.2	85.2	67.1	39.9	27.6	67.6	69.2	61.3	34.2	95.6	55.8
121	51.0	34.2	85.2	67.1	8.5	5.9	14.4	69.2	61.3	34.2	95.5	55.8
122	51.0	34.2	85.2	67.1	20.7	14.3	35.1	69.2	61.3	34.2	95.5	55.8
123	51.0	34.2	85.2	67.1	28.5	19.7	48.3	69.2	61.3	34.2	95.5	55.8
124	51.0	34.2	85.2	67.1	36.0	24.9	60.9	69.2	61.3	34.2	95.5	55.8
125	51.0	34.2	85.2	67.1	40.5	28.0	68.5	69.2	61.3	34.2	95.5	55.8
126	50.0	33.5	83.5	67.1	19.3	13.3	32.6	69.2	60.1	33.5	93.7	55.8
127	50.0	33.5	83.5	67.1	39.1	27.1	66.2	69.2	60.1	33.5	93.7	55.8
128	50.0	33.5	83.5	67.1	43.4	30.0	73.4	69.2	60.1	33.5	93.7	55.8
129	50.0	33.5	83.5	67.1	2.6	1.8	4.4	69.2	60.1	33.5	93.6	55.8
130	50.0	33.5	83.5	67.1	15.7	10.9	26.6	69.2	60.1	33.5	93.6	55.8
131	50.0	33.5	83.5	67.1	27.7	19.2	47.0	69.2	60.1	33.5	93.6	55.8
132	50.0	33.5	83.5	67.1	38.7	26.7	65.4	69.2	60.1	33.5	93.6	55.8
133	50.0	33.5	83.5	67.1	43.0	29.7	72.7	69.2	60.1	33.5	93.6	55.8
134	50.0	33.5	83.5	67.1	44.0	30.4	74.5	69.2	60.1	33.5	93.6	55.8
135	49.7	33.4	83.2	67.1	42.8	29.6	72.4	69.2	59.8	33.4	93.3	55.8
136	49.7	33.4	83.2	67.1	43.5	30.1	73.6	69.2	59.8	33.4	93.3	55.8
137	49.7	33.4	83.2	67.1	44.0	30.5	74.6	69.2	59.8	33.4	93.3	55.8
138	49.7	33.4	83.2	67.1	44.4	30.7	75.2	69.2	59.8	33.4	93.3	55.8
139	49.7	33.4	83.2	67.1	44.7	30.9	75.6	69.2	59.8	33.4	93.3	55.8
140	50.3	33.7	84.1	67.1	41.4	28.6	70.1	69.2	60.5	33.7	94.2	55.8
141	50.3	33.7	84.1	67.1	43.6	30.2	73.9	69.2	60.5	33.7	94.2	55.8

COMPUTED RELATIVE TOXICITY CONCENTRATIONS
LESLIE DISCHARGE INTO DP 31.SBDA INTO DP31
1995

SEGMENT	DRY				WET				CANNING			
	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.
1	52.6	23.4	76.1	44.5	34.4	15.3	49.7	44.5	63.3	23.4	86.7	37.0
2	52.2	23.3	75.5	44.5	37.0	16.5	53.5	44.5	62.8	23.3	86.1	37.0
3	52.0	23.1	75.1	44.5	38.7	17.2	56.0	44.5	62.5	23.1	85.7	37.0
4	51.7	23.0	74.7	44.5	40.0	17.8	57.8	44.5	62.1	23.0	85.2	37.0
5	51.3	22.9	74.2	44.5	41.1	18.3	59.4	44.5	61.7	22.9	84.6	37.0
6	51.0	22.7	73.7	44.5	42.0	18.7	60.7	44.5	61.3	22.7	84.1	37.0
7	50.7	22.6	73.3	44.5	42.8	19.0	61.9	44.5	61.0	22.6	83.6	37.0
8	50.6	22.5	73.1	44.5	43.1	19.2	62.3	44.5	60.9	22.5	83.4	37.0
9	50.3	22.4	72.7	44.5	43.9	19.5	63.4	44.5	60.5	22.4	82.9	37.0
10	50.3	22.4	72.7	44.5	43.8	19.5	63.3	44.5	60.5	22.4	82.9	37.0
11	50.1	22.3	72.4	44.5	44.1	19.7	63.8	44.5	60.3	22.3	82.6	37.0
12	50.1	22.3	72.4	44.5	44.2	19.7	63.9	44.5	60.3	22.3	82.6	37.0
13	50.0	22.3	72.3	44.5	44.5	19.8	64.3	44.5	60.1	22.3	82.4	37.0
14	50.0	22.3	72.3	44.5	44.5	19.8	64.3	44.5	60.1	22.3	82.4	37.0
15	50.0	22.3	72.3	44.5	44.4	19.8	64.2	44.5	60.1	22.3	82.4	37.0
16	50.0	22.2	72.3	44.5	44.6	19.8	64.4	44.5	60.1	22.2	82.4	37.0
17	49.9	22.2	72.2	44.5	44.6	19.8	64.4	44.5	60.0	22.2	82.3	37.0
18	49.9	22.2	72.2	44.5	44.6	19.8	64.4	44.5	60.0	22.2	82.3	37.0
19	49.8	22.2	72.0	44.5	44.5	19.8	64.3	44.5	59.9	22.2	82.1	37.0
20	49.9	22.2	72.1	44.5	44.6	19.9	64.5	44.5	59.9	22.2	82.2	37.0
21	49.9	22.2	72.2	44.5	44.6	19.9	64.5	44.5	60.0	22.2	82.3	37.0
22	49.8	22.2	72.0	44.5	44.5	19.8	64.4	44.5	59.9	22.2	82.1	37.0
23	49.7	22.2	72.0	44.5	44.6	19.9	64.6	44.5	59.8	22.2	82.0	37.0
24	49.8	22.2	72.1	44.5	44.8	19.9	64.8	44.5	59.9	22.2	82.1	37.0
25	49.7	22.1	71.8	44.5	44.7	19.9	64.6	44.5	59.7	22.1	81.9	37.0
26	49.6	22.1	71.8	44.5	44.9	20.0	65.0	44.5	59.7	22.1	81.8	37.0
27	49.7	22.1	71.8	44.5	45.0	20.0	65.1	44.5	59.8	22.1	82.0	37.0
28	49.6	22.1	71.7	44.5	44.9	20.0	64.9	44.5	59.6	22.1	81.7	37.0
29	49.4	22.0	71.4	44.5	45.1	20.1	65.3	44.5	59.5	22.0	81.6	37.0

COMPUTED RELATIVE TOXICITY CONCENTRATIONS
LESLIE DISCHARGE INTO DP 31.SBDA INTO DP31
1995

SEGMENT	DRY				WET				CANNING			
	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.
30	47.8	21.3	69.1	44.5	44.2	19.7	63.9	44.5	57.4	21.3	78.7	37.0
31	49.2	21.9	71.1	44.5	45.6	20.3	66.0	44.5	59.3	21.9	81.3	37.0
32	40.1	17.9	58.0	44.5	36.7	16.3	53.1	44.5	48.2	17.9	66.2	37.0
33	39.1	17.4	56.6	44.5	35.7	15.9	51.6	44.5	47.1	17.4	64.5	37.0
34	38.4	17.1	55.5	44.5	35.0	15.6	50.6	44.5	46.1	17.1	63.3	37.0
35	35.9	16.0	52.0	44.5	32.6	14.5	47.1	44.5	43.2	16.0	59.3	37.0
36	34.0	15.1	49.2	44.5	30.7	13.7	44.4	44.5	40.9	15.1	56.0	37.0
37	39.0	17.3	56.3	44.5	35.5	15.8	51.3	44.5	46.9	17.3	64.3	37.0
38	37.0	16.5	53.5	44.5	33.7	15.0	48.7	44.5	44.5	16.5	61.0	37.0
39	26.4	11.7	38.1	44.5	23.2	10.3	33.6	44.5	31.6	11.7	43.3	37.0
40	30.1	13.4	43.5	44.5	26.9	12.0	38.9	44.5	36.1	13.4	49.6	37.0
41	38.4	17.1	55.5	44.5	34.8	15.5	50.4	44.5	46.1	17.1	63.3	37.0
42	35.0	15.6	50.6	44.5	31.7	14.1	45.9	44.5	42.1	15.6	57.7	37.0
43	23.3	10.4	33.7	44.5	20.3	9.0	29.4	44.5	28.0	10.4	38.4	37.0
44	26.4	11.7	38.2	44.5	23.3	10.4	33.7	44.5	31.7	11.7	43.5	37.0
45	33.5	14.9	48.4	44.5	30.1	13.4	43.5	44.5	40.2	14.9	55.1	37.0
46	29.2	13.0	42.2	44.5	25.8	11.5	37.3	44.5	35.1	13.0	48.1	37.0
47	21.5	9.6	31.1	44.5	18.6	8.3	26.9	44.5	25.8	9.6	35.4	37.0
48	23.6	10.5	34.1	44.5	20.6	9.2	29.9	44.5	28.4	10.5	38.9	37.0
49	33.4	14.9	48.3	44.5	29.8	13.3	43.2	44.5	40.1	14.9	55.0	37.0
50	28.6	12.7	41.3	44.5	25.3	11.2	36.6	44.5	34.4	12.7	47.2	37.0
51	20.9	9.3	30.2	44.5	18.1	8.0	26.1	44.5	25.1	9.3	34.5	37.0
52	21.7	9.6	31.4	44.5	18.8	8.4	27.3	44.5	26.1	9.6	35.8	37.0
53	33.2	14.8	48.1	44.5	29.6	13.2	42.9	44.5	40.0	14.8	54.8	37.0
54	30.4	13.5	44.0	44.5	26.8	11.9	38.7	44.5	36.5	13.5	50.1	37.0
55	20.3	9.0	29.4	44.5	17.5	7.8	25.4	44.5	24.4	9.0	33.5	37.0
56	20.3	9.0	29.4	44.5	17.6	7.8	25.4	44.5	24.4	9.0	33.5	37.0
57	38.2	17.0	55.2	44.5	33.2	14.8	48.1	44.5	45.9	17.0	63.0	37.0
58	40.2	17.9	58.1	44.5	34.8	15.5	50.3	44.5	48.3	17.9	66.3	37.0

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COMPUTED RELATIVE TOXICITY CONCENTRATIONS
LESLIE DISCHARGE INTO DP 31.SBDA INTO DP31
1995

	DRY				WET				CANNING			
SEGMENT	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.
59	19.5	8.7	28.2	44.5	16.8	7.5	24.4	44.5	23.5	8.7	32.2	37.0
60	18.5	8.2	26.8	44.5	16.0	7.1	23.1	44.5	22.3	8.2	30.5	37.0
61	37.9	16.9	54.8	44.5	32.9	14.6	47.5	44.5	45.6	16.9	62.5	37.0
62	20.5	9.1	29.7	44.5	17.8	7.9	25.7	44.5	24.7	9.1	33.9	37.0
63	19.3	8.6	27.9	44.5	16.6	7.4	24.1	44.5	23.2	8.6	31.8	37.0
64	16.2	7.2	23.4	44.5	13.9	6.2	20.2	44.5	19.5	7.2	26.7	37.0
65	35.8	15.9	51.7	44.5	31.3	13.9	45.3	44.5	43.1	15.9	59.0	37.0
66	26.3	11.7	38.0	44.5	22.8	10.1	33.0	44.5	31.6	11.7	43.3	37.0
67	18.0	8.0	26.1	44.5	15.6	6.9	22.6	44.5	21.7	8.0	29.7	37.0
68	15.0	6.7	21.7	44.5	13.0	5.8	18.8	44.5	18.1	6.7	24.8	37.0
69	31.9	14.2	46.1	44.5	28.1	12.5	40.6	44.5	38.3	14.2	52.6	37.0
70	25.6	11.4	37.0	44.5	22.5	10.0	32.5	44.5	30.8	11.4	42.2	37.0
71	12.6	5.6	18.2	44.5	11.0	4.9	15.9	44.5	15.1	5.6	20.7	37.0
72	11.5	5.1	16.6	44.5	10.0	4.4	14.5	44.5	13.8	5.1	18.9	37.0
73	26.5	11.8	38.3	44.5	23.5	10.4	33.9	44.5	31.9	11.8	43.7	37.0
74	17.1	7.6	24.7	44.5	15.6	6.9	22.6	44.5	20.6	7.6	28.3	37.0
75	9.8	4.4	14.2	44.5	8.8	3.9	12.7	44.5	11.8	4.4	16.2	37.0
76	12.5	5.6	18.1	44.5	12.1	5.4	17.5	44.5	15.1	5.6	20.7	37.0
77	9.9	4.4	14.3	44.5	9.5	4.2	13.7	44.5	11.9	4.4	16.3	37.0
78	5.7	2.5	8.2	44.5	5.5	2.4	8.0	44.5	6.9	2.5	9.5	37.0
79	5.7	2.5	8.2	44.5	5.5	2.4	8.0	44.5	6.9	2.5	9.5	37.0
80	9.6	4.3	13.9	44.5	9.4	4.1	13.6	44.5	11.6	4.3	15.9	37.0
81	7.1	3.1	10.3	44.5	6.9	3.1	10.1	44.5	8.6	3.1	11.8	37.0
82	4.6	2.0	6.7	44.5	4.5	2.0	6.5	44.5	5.6	2.0	7.6	37.0
83	4.9	2.2	7.1	44.5	4.8	2.1	7.0	44.5	5.9	2.2	8.1	37.0
84	3.9	1.7	5.6	44.5	3.8	1.7	5.5	44.5	4.6	1.7	6.3	37.0
85	3.5	1.5	5.1	44.5	3.5	1.5	5.0	44.5	4.2	1.5	5.8	37.0
86	3.3	1.4	4.8	44.5	3.2	1.4	4.7	44.5	4.0	1.4	5.5	37.0
87	1.7	0.7	2.5	44.5	1.6	0.7	2.3	44.5	2.1	0.7	2.9	37.0

COMPUTED RELATIVE TOXICITY CONCENTRATIONS
LESLIE DISCHARGE INTO DP 31.SBDA INTO DP31
1995

	DRY				WET				CANNING			
SEGMENT	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.	SBDA	LESLIE SALT	TOTAL	PERC. INCR.
88	2.7	1.2	4.0	44.5	2.7	1.2	3.9	44.5	3.3	1.2	4.6	37.0
89	2.1	0.9	3.0	44.5	2.0	0.9	3.0	44.5	2.5	0.9	3.4	37.0
90	1.4	0.6	2.1	44.5	1.4	0.6	2.0	44.5	1.7	0.6	2.3	37.0
91	1.4	0.6	2.1	44.5	1.4	0.6	2.0	44.5	1.7	0.6	2.3	37.0
92	1.1	0.5	1.6	44.5	1.1	0.5	1.6	44.5	1.3	0.5	1.8	37.0
93	0.5	0.2	0.7	44.5	0.5	0.2	0.8	44.5	0.6	0.2	0.8	37.0
94	0.1	0.0	0.2	44.5	0.1	0.0	0.2	44.5	0.2	0.0	0.3	37.0
95	0.6	0.2	0.9	44.5	0.5	0.2	0.8	44.5	0.7	0.2	1.0	37.0
96	0.3	0.1	0.5	44.5	0.3	0.1	0.5	44.5	0.4	0.1	0.5	37.0
97	0.5	0.2	0.7	44.5	0.5	0.2	0.7	44.5	0.6	0.2	0.8	37.0
98	52.8	23.5	76.3	44.5	0.0	0.0	0.0	44.5	63.5	23.5	87.0	37.0
99	52.8	23.5	76.3	44.5	1.5	0.6	2.2	44.5	63.5	23.5	87.0	37.0
100	52.8	23.5	76.3	44.5	11.3	5.0	16.3	44.5	63.5	23.5	87.0	37.0
101	52.8	23.5	76.3	44.5	20.9	9.3	30.3	44.5	63.5	23.5	87.0	37.0
102	52.8	23.5	76.3	44.5	29.2	13.0	42.2	44.5	63.5	23.5	87.0	37.0
103	52.7	23.5	76.2	44.5	0.2	0.1	0.3	44.5	63.4	23.5	86.9	37.0
104	52.7	23.5	76.2	44.5	1.5	0.6	2.2	44.5	63.4	23.5	86.9	37.0
105	52.7	23.5	76.2	44.5	10.5	4.7	15.3	44.5	63.4	23.5	86.9	37.0
106	52.7	23.5	76.2	44.5	18.5	8.2	26.8	44.5	63.4	23.5	86.9	37.0
107	52.7	23.5	76.2	44.5	22.5	10.0	32.5	44.5	63.4	23.5	86.9	37.0
108	52.7	23.5	76.2	44.5	24.9	11.1	36.0	44.5	63.4	23.5	86.9	37.0
109	52.7	23.5	76.2	44.5	27.2	12.1	39.3	44.5	63.4	23.5	86.9	37.0
110	52.7	23.5	76.2	44.5	29.5	13.1	42.7	44.5	63.4	23.5	86.9	37.0
111	52.7	23.5	76.2	44.5	31.9	14.2	46.1	44.5	63.4	23.5	86.9	37.0
112	52.7	23.5	76.2	44.5	33.4	14.9	48.3	44.5	63.4	23.5	86.9	37.0
113	52.0	23.1	75.2	44.5	24.1	10.7	34.8	44.5	62.5	23.1	85.7	37.0
114	52.0	23.1	75.2	44.5	32.1	14.3	46.4	44.5	62.5	23.1	85.7	37.0
115	52.0	23.1	75.2	44.5	35.7	15.9	51.6	44.5	62.5	23.1	85.7	37.0
116	52.0	23.1	75.2	44.5	37.0	16.5	53.5	44.5	62.5	23.1	85.7	37.0

COMPUTED RELATIVE TOXICITY CONCENTRATIONS
LESLIE DISCHARGE INTO DP 31,SODA INTO DP31
1995

	DRY				WET				CANNING			
SEGMENT	SODA	LESLIE SALT	TOTAL	PERC. INCR.	SODA	LESLIE SALT	TOTAL	PERC. INCR.	SODA	LESLIE SALT	TOTAL	PERC. INCR.
117	52.0	23.1	75.2	44.5	37.9	16.9	54.8	44.5	62.5	23.1	85.7	37.0
118	51.0	22.7	73.7	44.5	23.3	10.4	33.7	44.5	61.3	22.7	84.1	37.0
119	51.0	22.7	73.7	44.5	34.7	15.5	50.2	44.5	61.3	22.7	84.1	37.0
120	51.0	22.7	73.7	44.5	39.9	17.8	57.7	44.5	61.3	22.7	84.1	37.0
121	51.0	22.7	73.7	44.5	8.5	3.8	12.3	44.5	61.3	22.7	84.0	37.0
122	51.0	22.7	73.7	44.5	20.7	9.2	30.0	44.5	61.3	22.7	84.0	37.0
123	51.0	22.7	73.7	44.5	28.5	12.7	41.3	44.5	61.3	22.7	84.0	37.0
124	51.0	22.7	73.7	44.5	36.0	16.0	52.1	44.5	61.3	22.7	84.0	37.0
125	51.0	22.7	73.7	44.5	40.5	18.0	58.5	44.5	61.3	22.7	84.0	37.0
126	50.0	22.3	72.3	44.5	19.3	8.6	27.9	44.5	60.1	22.2	82.4	37.0
127	50.0	22.3	72.3	44.5	39.1	17.4	56.6	44.5	60.1	22.2	82.4	37.0
128	50.0	22.3	72.3	44.5	43.4	19.3	62.7	44.5	60.1	22.2	82.4	37.0
129	50.0	22.3	72.3	44.5	2.6	1.1	3.7	44.5	60.1	22.2	82.4	37.0
130	50.0	22.3	72.3	44.5	15.7	7.0	22.7	44.5	60.1	22.2	82.4	37.0
131	50.0	22.3	72.3	44.5	27.7	12.4	40.1	44.5	60.1	22.2	82.4	37.0
132	50.0	22.3	72.3	44.5	38.7	17.2	55.9	44.5	60.1	22.2	82.4	37.0
133	50.0	22.3	72.3	44.5	43.0	19.1	62.1	44.5	60.1	22.2	82.4	37.0
134	50.0	22.3	72.3	44.5	44.0	19.6	63.6	44.5	60.1	22.2	82.4	37.0
135	49.8	22.2	72.0	44.5	42.8	19.1	61.9	44.5	59.8	22.2	82.0	37.0
136	49.8	22.2	72.0	44.5	43.5	19.4	62.9	44.5	59.8	22.2	82.0	37.0
137	49.8	22.2	72.0	44.5	44.0	19.6	63.7	44.5	59.8	22.2	82.0	37.0
138	49.8	22.2	72.0	44.5	44.9	19.9	64.9	44.5	59.8	22.2	82.0	37.0
139	49.8	22.2	72.0	44.5	44.7	19.9	64.6	44.5	59.8	22.2	82.0	37.0
140	50.3	22.4	72.7	44.5	41.4	18.4	59.9	44.5	60.5	22.4	82.9	37.0
141	50.3	22.4	72.7	44.5	43.6	19.4	63.1	44.5	60.5	22.4	82.9	37.0

APPENDIX C

COMPLETE MODEL RESULTS OF PROJECTED CHLORIDE CONCENTRATIONS

C-272

COMPUTED CHLORIDE CONCENTRATIONS (MG/L)
LESLIE DISCHARGE INTO OP 26.SODA INTO OP 31
1985,1995 - DRY

SEGMENT	PREVIOUS PROJECTION	LESLIE SALT CO.	PROJECTION INCL. LESLIE SALT CO.	PERCENT INCREASE
1	16747.9	195.1	16942.6	1.1
2	16627.3	197.6	16820.6	1.1
3	16542.0	196.5	16734.2	1.1
4	16466.1	195.5	16637.2	1.1
5	16337.4	194.5	16527.3	1.1
6	16230.7	192.9	16419.4	1.1
7	16140.5	191.9	16329.1	1.1
8	16102.0	191.4	16289.2	1.1
9	16002.5	190.2	16199.5	1.1
10	16088.4	190.3	16194.4	1.1
11	15957.6	189.7	16143.1	1.1
12	15958.8	189.7	16141.3	1.1
13	15987.4	189.1	16092.3	1.1
14	15911.6	189.1	16096.6	1.1
15	15920.8	189.2	16109.9	1.1
16	15905.5	189.1	16090.5	1.1
17	15891.2	188.9	16075.9	1.1
18	15892.5	188.9	16077.0	1.1
19	15851.2	188.4	16035.4	1.1
20	15869.3	188.6	16053.4	1.1
21	15849.8	188.9	16074.5	1.1
22	15847.4	188.4	16031.6	1.1
23	15838.0	188.3	16022.1	1.1
24	15852.0	188.5	16046.3	1.1
25	15809.5	187.9	15995.2	1.1
26	15804.2	187.8	15987.9	1.1
27	15826.8	188.1	16010.7	1.1
28	15781.4	174.6	15952.5	1.0
29	15748.3	155.3	15900.9	0.9

COMPUTED CHLORIDE CONCENTRATIONS (MG/L)
LESLIE DISCHARGE INTO OP 26.SODA INTO OP 31
1985,1995 - DRY

SEGMENT	PREVIOUS PROJECTION	LESLIE SALT CO.	PROJECTION INCL. LESLIE SALT CO.	PERCENT INCREASE
30	15733.0	120.0	15851.9	0.7
31	15689.6	123.9	15815.2	0.7
32	15888.3	100.9	15990.6	0.6
33	15937.5	98.4	16035.9	0.6
34	15930.9	96.4	16027.2	0.6
35	15975.6	90.3	16066.3	0.5
36	16006.1	85.4	16091.4	0.5
37	15978.3	97.9	16076.2	0.6
38	15971.1	93.0	16064.1	0.5
39	16167.3	66.1	16233.5	0.4
40	16082.5	75.5	16158.0	0.4
41	16003.9	96.4	16100.3	0.6
42	16020.0	88.3	16108.1	0.5
43	16211.6	58.6	16270.2	0.3
44	16144.1	66.3	16214.4	0.4
45	16032.4	84.0	16116.5	0.5
46	16121.9	73.4	16195.2	0.4
47	16220.0	54.0	16274.0	0.3
48	16191.8	59.3	16251.1	0.3
49	16126.5	83.9	16210.4	0.5
50	16196.4	72.0	16269.4	0.4
51	16214.8	52.6	16266.5	0.3
52	16226.4	54.5	16291.0	0.3
53	16213.0	83.9	16296.5	0.5
54	16581.2	76.4	16657.6	0.4
55	16203.1	51.1	16254.2	0.3
56	16271.3	51.1	16322.4	0.3
57	20378.1	96.0	20475.1	0.4
58	21994.1	101.0	22096.1	0.4

COMPUTED CHLORIDE CONCENTRATIONS (MG/L)
LESLIE DISCHARGE INTO DP 26.SBDA INTO DP 31
1985,1995 - DRY

SEGMENT	PREVIOUS PROJECTION	LESLIE SALT CO.	PROJECTION INCL. LESLIE SALT CO.	PERCENT INCREASE
59	16155.1	49.1	16204.2	0.3
60	16446.1	46.6	16492.7	0.2
61	20258.8	95.2	20354.0	0.4
62	11262.6	51.6	11314.2	0.4
63	15060.9	48.4	15109.3	0.3
64	16943.8	40.7	16984.5	0.2
65	19805.8	90.0	19895.8	0.4
66	15123.9	66.0	15189.9	0.4
67	16395.7	45.3	16441.0	0.2
68	17007.7	37.8	17045.5	0.2
69	19201.5	80.1	19281.6	0.4
70	16930.2	64.4	16994.6	0.3
71	17226.7	31.6	17258.3	0.1
72	17467.2	28.9	17496.1	0.1
73	18986.9	66.8	19053.7	0.3
74	17683.2	43.1	17726.3	0.2
75	17494.8	24.8	17519.6	0.1
76	17924.8	31.5	17956.3	0.1
77	17673.6	24.9	17698.5	0.1
78	17409.6	14.5	17424.1	0.0
79	17409.6	14.4	17424.1	0.0
80	17712.3	24.3	17736.6	0.1
81	17475.6	17.9	17493.6	0.1
82	17265.9	11.7	17277.6	0.0
83	17270.7	12.4	17283.1	0.0
84	17185.9	9.8	17195.7	0.0
85	17126.3	8.9	17135.2	0.0
86	17125.2	8.3	17133.6	0.0
87	17353.3	4.4	17357.7	0.0

COMPUTED CHLORIDE CONCENTRATIONS (MG/L)
LESLIE DISCHARGE INTO DP 26.SBDA INTO DP 31
1985,1995 - DRY

SEGMENT	PREVIOUS PROJECTION	LESLIE SALT CO.	PROJECTION INCL. LESLIE SALT CO.	PERCENT INCREASE
88	17013.9	7.0	17021.0	0.0
89	17015.7	5.3	17021.0	0.0
90	16916.1	3.7	16919.8	0.0
91	16769.1	3.7	16772.8	0.0
92	16927.4	2.9	16930.3	0.0
93	17263.0	1.3	17264.3	0.0
94	17750.0	0.4	17750.5	0.0
95	16095.6	1.5	16097.2	0.0
96	16064.7	0.8	16065.5	0.0
97	17263.0	1.3	17264.3	0.0
98	16803.9	199.8	17003.7	1.1
99	16803.9	199.8	17003.7	1.1
100	16803.9	199.8	17003.7	1.1
101	16803.9	199.8	17003.7	1.1
102	16803.9	199.8	17003.7	1.1
103	16775.4	199.4	16970.4	1.1
104	16775.4	199.4	16970.4	1.1
105	16775.4	199.4	16970.4	1.1
106	16775.4	199.4	16970.4	1.1
107	16775.4	199.4	16970.4	1.1
108	16775.4	199.4	16970.4	1.1
109	16775.4	199.4	16970.4	1.1
110	16775.4	199.4	16970.4	1.1
111	16775.4	199.4	16970.4	1.1
112	16775.4	199.4	16970.4	1.1
113	16541.9	196.6	16734.2	1.1
114	16541.9	196.6	16734.2	1.1
115	16541.9	196.6	16734.2	1.1
116	16541.9	196.6	16734.2	1.1

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COMPUTED CHLORIDE CONCENTRATIONS (MG/L)
LESLIE DISCHARGE INTO DP 26.SBDA INTO DP 31
1985.1995 - DRY

SEGMENT	PREVIOUS PROJECTION	LESLIE SALT CO.	PROJECTION INCL. LESLIE SALT CO.	PERCENT INCREASE
117	16542.0	196.6	16734.2	1.1
118	16230.7	192.9	16419.4	1.1
119	16230.7	192.9	16419.4	1.1
120	16230.7	192.9	16419.4	1.1
121	16223.8	192.8	16412.4	1.1
122	16223.8	192.8	16412.4	1.1
123	16223.8	192.8	16412.4	1.1
124	16223.8	192.8	16412.4	1.1
125	16223.8	192.8	16412.4	1.1
126	15905.8	189.1	16090.6	1.1
127	15905.8	189.1	16090.6	1.1
128	15905.8	189.1	16090.6	1.1
129	15904.4	189.0	16089.3	1.1
130	15904.4	189.0	16089.3	1.1
131	15904.5	189.0	16089.3	1.1
132	15904.5	189.0	16089.3	1.1
133	15904.5	189.0	16089.3	1.1
134	15904.5	189.0	16089.3	1.1
135	15838.2	188.3	16022.3	1.1
136	15838.2	188.3	16022.3	1.1
137	15838.3	188.3	16022.3	1.1
138	15838.3	188.3	16022.3	1.1
139	15838.3	188.3	16022.3	1.1
140	16006.4	190.3	16192.5	1.1
141	16006.4	190.3	16192.5	1.1

COMPUTED CHLORIDE CONCENTRATIONS (MG/L)
LESLIE DISCHARGE INTO DP 26.SBDA INTO DP 31
1985.1995 - WET

SEGMENT	PREVIOUS PROJECTION	LESLIE SALT CO.	PROJECTION INCL. LESLIE SALT CO.	PERCENT INCREASE
1	9008.6	134.1	9141.4	1.4
2	9688.0	144.2	9829.9	1.4
3	10147.7	151.1	10296.2	1.4
4	10476.1	156.0	10629.5	1.4
5	10769.7	160.4	10927.3	1.4
6	10998.5	163.7	11156.4	1.4
7	11208.8	166.9	11372.8	1.4
8	11287.9	168.1	11453.1	1.4
9	11488.1	171.1	11656.3	1.4
10	11471.1	170.8	11639.0	1.4
11	11563.9	172.2	11733.2	1.4
12	11566.4	172.2	11735.7	1.4
13	11667.8	173.7	11839.6	1.4
14	11649.4	173.5	11819.9	1.4
15	11628.8	173.2	11799.0	1.4
16	11674.9	173.9	11845.9	1.4
17	11673.3	173.9	11844.1	1.4
18	11666.0	173.7	11836.9	1.4
19	11687.3	174.0	11858.4	1.4
20	11693.9	174.1	11865.1	1.4
21	11669.1	173.8	11839.9	1.4
22	11696.7	174.2	11867.9	1.4
23	11736.1	174.9	11907.9	1.4
24	11703.9	174.5	11875.2	1.4
25	11773.6	175.3	11945.9	1.4
26	11784.3	175.5	11956.8	1.4
27	11742.5	174.8	11914.4	1.4
28	11818.0	163.9	11979.3	1.3
29	11869.8	144.7	12012.3	1.2

COMPUTED CHLORIDE CONCENTRATIONS (MG/L)
LESLIE DISCHARGE INTO DP 26.SBDA INTO DP 31
1985,1995 - WET

SEGMENT	PREVIOUS PROJECTION	LESLIE SALT CO.	PROJECTION INCL. LESLIE SALT CO.	PERCENT INCREASE
30	11988.6	111.0	12099.6	0.9
31	11952.9	114.6	12066.5	0.9
32	12175.4	92.2	12267.6	0.7
33	12199.3	89.7	12289.1	0.7
34	12216.7	88.0	12304.7	0.7
35	12276.9	81.9	12359.0	0.6
36	12324.6	77.2	12401.8	0.6
37	12205.4	89.1	12294.5	0.7
38	12249.9	84.5	12334.6	0.6
39	12509.1	58.4	12567.6	0.4
40	12420.1	67.6	12487.7	0.5
41	12221.1	87.5	12308.6	0.7
42	12299.2	79.7	12379.0	0.6
43	12581.1	51.1	12632.3	0.4
44	12510.5	58.6	12569.2	0.4
45	12340.2	75.6	12415.9	0.6
46	12446.4	64.9	12511.3	0.5
47	12623.3	46.7	12670.1	0.3
48	12582.2	51.9	12634.2	0.4
49	12347.9	75.0	12422.9	0.6
50	12479.4	63.6	12543.0	0.5
51	12635.9	45.4	12681.3	0.3
52	12643.5	47.4	12690.9	0.3
53	12377.1	74.4	12451.6	0.6
54	12700.2	67.3	12767.5	0.5
55	12646.1	44.1	12690.3	0.3
56	12712.0	44.2	12756.3	0.3
57	13398.2	83.6	13481.8	0.5
58	16557.6	87.4	16645.0	0.5

COMPUTED CHLORIDE CONCENTRATIONS (MG/L)
LESLIE DISCHARGE INTO DP 26.SBDA INTO DP 31
1985,1995 - WET

SEGMENT	PREVIOUS PROJECTION	LESLIE SALT CO.	PROJECTION INCL. LESLIE SALT CO.	PERCENT INCREASE
59	12639.3	52.4	12691.7	0.3
60	12904.1	40.2	12944.3	0.3
61	15244.0	82.6	15326.6	0.5
62	9471.4	44.7	9516.1	0.5
63	12584.3	41.9	12626.2	0.3
64	13314.6	35.1	13349.7	0.2
65	14915.9	78.7	14994.6	0.5
66	11402.1	57.4	11459.5	0.5
67	12949.1	39.2	12988.3	0.3
68	13521.5	32.6	13554.1	0.2
69	14519.9	70.6	14590.6	0.4
70	12964.5	56.6	13021.2	0.4
71	13973.7	27.6	14001.4	0.1
72	14153.3	25.3	14178.6	0.1
73	14458.2	59.0	14517.3	0.4
74	14262.4	39.3	14301.8	0.2
75	14403.5	22.1	14425.7	0.1
76	14632.2	30.4	14662.7	0.2
77	14661.2	23.8	14685.1	0.1
78	14772.4	13.9	14786.3	0.0
79	14772.4	13.9	14786.3	0.0
80	14689.5	23.6	14713.1	0.1
81	14740.8	17.5	14758.4	0.1
82	14813.5	11.3	14824.9	0.0
83	14791.1	12.2	14803.3	0.0
84	14837.1	9.6	14846.7	0.0
85	14814.0	8.7	14822.8	0.0
86	14856.8	8.2	14865.0	0.0
87	14691.3	4.2	14695.6	0.0

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COMPUTED CHLORIDE CONCENTRATIONS (MG/L)
LESLIE DISCHARGE INTO DP 26.5BDA INTO DP 31
1985,1995 - WET

SEGMENT	PREVIOUS PROJECTION	LESLIE SALT CO.	PROJECTION INCL. LESLIE SALT CO.	PERCENT INCREASE
88	14773.1	6.9	14790.0	0.0
89	14928.9	5.2	14934.1	0.0
90	14671.0	5.5	14674.6	0.0
91	14700.5	3.6	14708.0	0.0
92	14987.7	2.9	14990.5	0.0
93	15619.7	1.4	15621.1	0.0
94	16515.4	0.4	16519.9	0.0
95	13990.0	1.4	13990.4	0.
96	14108.7	0.4	14110.5	0.0
97	15619.7	1.4	15621.1	0.0
98	16.5	0.2	16.7	1.4
99	405.1	6.0	411.0	1.4
100	2967.6	44.2	3011.1	1.4
101	5492.5	81.4	5572.9	1.4
102	7655.1	114.0	7767.2	1.4
103	62.7	0.9	63.6	1.4
104	402.5	5.9	408.4	1.4
105	2771.5	41.2	2812.4	1.4
106	4853.1	72.2	4924.1	1.4
107	5889.2	87.7	5978.4	1.4
108	6522.4	97.1	6617.9	1.4
109	7150.0	106.3	7253.4	1.4
110	7733.4	115.3	7856.7	1.4
111	8337.1	124.1	9459.1	1.4
112	9747.6	130.2	9875.6	1.4
113	5320.3	94.2	5420.9	1.4
114	8413.9	125.5	9537.0	1.4
115	9356.5	139.3	9493.5	1.4
116	9598.7	144.4	9840.6	1.4

COMPUTED CHLORIDE CONCENTRATIONS (MG/L)
LESLIE DISCHARGE INTO DP 26.5BDA INTO DP 31
1985,1995 - WET

SEGMENT	PREVIOUS PROJECTION	LESLIE SALT CO.	PROJECTION INCL. LESLIE SALT CO.	PERCENT INCREASE
117	9928.7	147.0	10075.0	1.4
118	6115.2	91.0	6204.7	1.4
119	9098.1	135.5	9231.3	1.4
120	10454.4	155.7	10607.4	1.4
121	2242.2	33.3	2275.0	1.4
122	5430.8	81.0	5519.4	1.4
123	7477.0	111.3	7597.3	1.4
124	9428.6	140.4	9567.6	1.4
125	10603.8	157.9	10758.7	1.4
126	5053.3	75.2	5127.3	1.4
127	10248.6	152.5	10399.7	1.4
128	11358.0	169.1	11524.3	1.4
129	685.6	10.2	695.7	1.4
130	4122.9	61.4	4193.2	1.4
131	7272.9	108.3	7379.4	1.4
132	10129.0	150.0	10277.2	1.4
133	11253.2	167.5	11417.9	1.4
134	11526.0	171.6	11694.7	1.4
135	11216.3	167.0	11380.5	1.4
136	11390.3	169.5	11557.0	1.4
137	11539.0	171.9	11706.9	1.4
138	11630.7	173.3	11809.1	1.4
139	11706.0	174.3	11877.3	1.4
140	10842.9	161.4	11001.6	1.4
141	11430.1	170.2	11597.4	1.4

APPENDIX D

COMPLETE MODEL RESULTS OF PROJECTED DISSOLVED OXYGEN DEFICIT CONCENTRATIONS

COMPUTED DISSOLVED OXYGEN DEFICIT CONCENTRATIONS (MG/L)
LESLIE DISCHARGE INTO DP 26,SBDA INTO 31

1995 - DRY

SEGMENT	SBDA	MARSH LOAD	BOTTOM DEMAND	OTHER STP	LESLIE SALT CO.	TOTAL DEFICIT	PERCENT INCREASE
1	0.00	1.43	0.34	0.00	0.00	1.78	0.05
2	0.00	1.14	0.33	0.00	0.00	1.48	0.09
3	0.01	0.86	0.33	0.00	0.00	1.21	0.16
4	0.01	0.72	0.32	0.00	0.00	1.06	0.25
5	0.02	0.66	0.32	0.00	0.00	1.02	0.40
6	0.03	0.63	0.32	0.00	0.00	1.01	0.60
7	0.05	0.50	0.32	0.01	0.00	0.91	0.97
8	0.06	0.47	0.32	0.01	0.01	0.89	1.15
9	0.09	0.44	0.32	0.03	0.01	0.92	1.71
10	0.09	0.44	0.32	0.03	0.01	0.91	1.64
11	0.11	0.45	0.32	0.04	0.01	0.97	1.91
12	0.11	0.46	0.32	0.04	0.01	0.97	1.91
13	0.15	0.48	0.33	0.06	0.02	1.05	2.11
14	0.14	0.47	0.33	0.05	0.02	1.03	2.11
15	0.13	0.43	0.32	0.05	0.01	0.96	2.05
16	0.16	0.52	0.33	0.06	0.02	1.11	2.13
17	0.16	0.49	0.33	0.07	0.02	1.09	2.18
18	0.15	0.45	0.31	0.06	0.02	1.00	2.16
19	0.17	0.54	0.33	0.07	0.02	1.16	2.19
20	0.18	0.51	0.33	0.09	0.02	1.14	2.24
21	0.15	0.45	0.31	0.06	0.02	1.01	2.17
22	0.19	0.58	0.34	0.08	0.02	1.22	2.21
23	0.23	0.55	0.35	0.11	0.02	1.28	2.31
24	0.19	0.49	0.32	0.08	0.02	1.12	2.28
25	0.27	0.59	0.36	0.13	0.03	1.40	2.35
26	0.27	0.59	0.37	0.14	0.03	1.42	2.31
27	0.24	0.55	0.36	0.12	0.03	1.31	2.31
28	0.30	0.59	0.39	0.17	0.03	1.49	2.22
29	0.32	0.58	0.41	0.20	0.03	1.56	2.01

COMPUTED DISSOLVED OXYGEN DEFICIT CONCENTRATIONS (MG/L)
LESLIE DISCHARGE INTO DP 26,SBDA INTO 31

1995 - DRY

SEGMENT	SBDA	MARSH LOAD	BOTTOM DEMAND	OTHER STP	LESLIE SALT CO.	TOTAL DEFICIT	PERCENT INCREASE
30	0.31	0.52	0.46	0.25	0.02	1.58	1.49
31	0.31	0.53	0.44	0.25	0.02	1.57	1.55
32	0.22	0.55	0.45	0.22	0.01	1.47	1.01
33	0.24	0.43	0.49	0.27	0.01	1.46	1.10
34	0.24	0.46	0.49	0.30	0.01	1.50	1.10
35	0.21	0.44	0.49	0.31	0.01	1.47	1.00
36	0.19	0.64	0.49	0.26	0.01	1.60	0.71
37	0.23	0.41	0.50	0.24	0.01	1.41	1.63
38	0.23	0.44	0.49	0.30	0.01	1.50	1.03
39	0.11	0.32	0.50	0.34	0.00	1.30	0.52
40	0.15	0.67	0.50	0.28	0.00	1.63	0.53
41	0.21	0.45	0.50	0.22	0.01	1.41	0.91
42	0.22	0.42	0.51	0.31	0.01	1.49	0.94
43	0.08	0.25	0.50	0.34	0.00	1.19	0.36
44	0.09	0.56	0.49	0.26	0.00	1.42	0.35
45	0.16	0.37	0.51	0.24	0.00	1.30	0.74
46	0.15	0.32	0.52	0.31	0.00	1.35	0.69
47	0.06	0.19	0.50	0.32	0.00	1.08	0.27
48	0.06	0.35	0.48	0.24	0.00	1.14	0.26
49	0.15	0.36	0.50	0.21	0.00	1.24	0.69
50	0.14	0.30	0.53	0.30	0.00	1.28	0.62
51	0.05	0.16	0.50	0.28	0.00	1.01	0.25
52	0.04	0.22	0.49	0.23	0.00	1.00	0.21
53	0.13	0.35	0.50	0.19	0.00	1.20	0.61
54	0.13	0.32	0.53	0.25	0.00	1.25	0.56
55	0.04	0.14	0.49	0.26	0.00	0.95	0.23
56	0.03	0.15	0.51	0.22	0.00	0.93	0.19
57	0.11	0.31	0.56	0.20	0.00	1.20	0.49
58	0.15	0.38	0.66	0.29	0.00	1.51	0.53

COMPUTED DISSOLVED OXYGEN DEFICIT CONCENTRATIONS (MG/L)
LESLIE DISCHARGE INTO DP 26,SBDA INTO 31

1995 - DRY

SEGMENT	SBDA	MARSH LOAD	BOTTOM DEMAND	OTHER STP	LESLIE SALT CO.	TOTAL DEFICIT	PERCENT INCREASE
59	0.03	0.11	0.49	0.20	0.00	0.85	0.21
60	0.02	0.09	0.51	0.17	0.00	0.80	0.15
61	0.08	0.24	0.50	0.14	0.00	0.99	0.42
62	0.05	0.14	0.33	0.10	0.00	0.64	0.42
63	0.03	0.11	0.49	0.19	0.00	0.83	0.20
64	0.01	0.05	0.57	0.15	0.00	0.80	0.09
65	0.06	0.19	0.49	0.12	0.00	0.88	0.35
66	0.05	0.15	0.44	0.10	0.00	0.75	0.32
67	0.02	0.09	0.47	0.22	0.00	0.81	0.16
68	0.01	0.04	0.61	0.19	0.00	0.86	0.07
69	0.04	0.15	0.50	0.10	0.00	0.91	0.27
70	0.04	0.13	0.49	0.13	0.00	0.80	0.24
71	0.01	0.03	0.47	0.30	0.00	0.82	0.05
72	0.00	0.02	0.59	0.27	0.00	0.88	0.03
73	0.02	0.09	0.51	0.12	0.00	0.76	0.17
74	0.01	0.05	0.45	0.25	0.00	0.79	0.10
75	0.00	0.01	0.44	0.37	0.00	0.84	0.02
76	0.00	0.03	0.44	0.35	0.00	0.85	0.05
77	0.00	0.02	0.41	0.44	0.00	0.88	0.03
78	0.00	0.01	0.34	0.50	0.00	0.86	0.01
79	0.00	0.00	0.40	0.21	0.00	0.62	0.00
80	0.00	0.02	0.44	0.44	0.00	0.91	0.03
81	0.00	0.01	0.34	0.51	0.00	0.87	0.02
82	0.00	0.01	0.25	0.54	0.00	0.81	0.01
83	0.00	0.01	0.24	0.52	0.00	0.78	0.01
84	0.00	0.00	0.29	0.52	0.00	0.73	0.01
85	0.00	0.00	0.15	0.50	0.00	0.68	0.01
86	0.00	0.00	0.15	0.49	0.00	0.65	0.01
87	0.00	0.00	0.02	0.24	0.00	0.27	0.00

COMPUTED DISSOLVED OXYGEN DEFICIT CONCENTRATIONS (MG/L)
LESLIE DISCHARGE INTO DP 26.SBDA INTO 31

1995 - DRY

SEGMENT	SRDA	MARSH LOAD	BOTTOM DEMAND	OTHER STP	LESLIE SALT CO.	TOTAL DEFICIT	PERCENT INCREASE
88	0.00	0.00	0.12	0.48	0.00	0.61	0.01
89	0.00	0.00	0.10	0.35	0.00	0.47	0.01
90	0.00	0.00	0.02	0.21	0.00	0.23	0.00
91	0.00	0.00	0.06	0.29	0.00	0.35	0.01
92	0.00	0.00	0.05	0.22	0.00	0.28	0.01
93	0.00	0.00	0.02	0.12	0.00	0.14	0.00
94	0.00	0.00	0.01	0.04	0.00	0.05	0.00
95	0.00	0.00	0.02	0.14	0.00	0.17	0.00
96	0.00	0.00	0.01	0.09	0.00	0.10	0.00
97	0.00	0.00	0.01	0.08	0.00	0.09	0.00
98	0.00	2.03	0.20	0.00	0.00	2.23	0.00
99	0.00	3.24	0.09	0.00	0.00	3.30	0.00
100	0.00	4.52	0.24	0.00	0.00	4.78	0.00
101	0.00	4.87	0.29	0.00	0.00	5.17	0.01
102	0.00	4.79	0.39	0.00	0.00	4.18	0.01
103	0.00	5.73	1.04	0.00	0.00	6.78	0.00
104	0.00	4.62	0.98	0.00	0.00	5.61	0.00
105	0.00	2.48	0.75	0.00	0.00	3.24	0.00
106	0.00	1.91	0.70	0.00	0.00	2.62	0.01
107	0.00	1.63	0.64	0.00	0.00	2.27	0.01
108	0.00	1.50	0.54	0.00	0.00	2.04	0.02
109	0.00	1.45	0.49	0.00	0.00	1.93	0.02
110	0.00	1.42	0.44	0.00	0.00	1.86	0.03
111	0.00	1.43	0.40	0.00	0.00	1.84	0.03
112	0.00	1.45	0.37	0.00	0.00	1.83	0.04
113	0.00	1.50	0.85	0.00	0.00	2.34	0.03
114	0.00	1.20	0.64	0.00	0.00	1.85	0.05
115	0.00	1.04	0.48	0.00	0.00	1.54	0.07
116	0.00	1.01	0.45	0.00	0.00	1.46	0.09

COMPUTED DISSOLVED OXYGEN DEFICIT CONCENTRATIONS (MG/L)
LESLIE DISCHARGE INTO DP 26.SBDA INTO 31

1995 - DRY

SEGMENT	SRDA	MARSH LOAD	BOTTOM DEMAND	OTHER STP	LESLIE SALT CO.	TOTAL DEFICIT	PERCENT INCREASE
117	0.00	0.97	0.40	0.00	0.00	1.38	0.11
118	0.00	7.87	0.05	0.00	0.00	7.93	0.00
119	0.00	4.97	0.24	0.00	0.00	5.24	0.03
120	0.02	1.90	0.38	0.00	0.00	2.31	0.16
121	0.00	0.77	0.99	0.00	0.00	1.76	0.00
122	0.00	1.01	1.61	0.00	0.00	2.63	0.01
123	0.00	0.51	0.93	0.00	0.00	1.45	0.09
124	0.01	0.38	0.52	0.00	0.00	0.93	0.39
125	0.03	0.37	0.42	0.00	0.00	0.85	0.73
126	0.00	5.28	0.02	0.00	0.00	5.32	0.02
127	0.05	1.62	0.26	0.00	0.00	1.93	0.27
128	0.07	1.56	0.41	0.02	0.01	2.08	0.59
129	0.00	6.59	0.00	0.00	0.00	6.60	0.01
130	0.00	6.64	0.01	0.00	0.00	6.66	0.02
131	0.01	6.08	0.05	0.00	0.00	6.16	0.04
132	0.24	4.65	0.32	0.01	0.00	5.22	0.13
133	0.09	2.19	0.59	0.03	0.01	2.94	0.51
134	0.14	1.28	0.50	0.05	0.02	2.01	1.05
135	0.13	0.65	0.34	0.04	0.02	1.21	1.75
136	0.15	0.64	0.37	0.05	0.02	1.25	1.84
137	0.14	0.62	0.39	0.07	0.02	1.28	2.03
138	0.20	0.60	0.38	0.09	0.02	1.31	2.21
139	0.23	0.57	0.37	0.10	0.03	1.31	2.30
140	0.07	0.70	0.40	0.02	0.01	1.22	1.05
141	0.10	0.51	0.37	0.03	0.01	1.04	1.60

Bechtel Corporation
San Francisco, California

REVERIFICATION ANALYSIS OF THE SAN FRANCISCO BAY WATER QUALITY MODEL

By:

HYDROSCIENCE, INC.
363 Old Hook Road
Westwood, New Jersey 07675

June 1978

June 20, 1978

Ms. Carol Harper
Bechtel Corporation
P. O. Box 3965
San Francisco, CA 94119

Re: Reverification Analysis of the San Francisco Bay Water Quality Model

Dear Ms. Harper:

We are pleased to transmit herewith a draft of our report entitled, "Reverification Analysis of the San Francisco Bay Water Quality Model." The report summarizes engineering studies which were conducted to recalibrate and verify the existing model of South San Francisco Bay and the contiguous waters of small tidal creeks and sloughs. Data collected by E.H. Smith & Associates during 1977 was analyzed to accomplish this work.

The three principal results of this study are summarized as follows:

1. An analysis of data collected by E.H. Smith & Associates as part of the current study permitted significant improvements in estimates of model coefficients which were employed in recalibrating and verifying the model. In particular, long term BOD data provided measurements of carbonaceous and nitrogenous BOD reaction kinetics and the carbonaceous BOD ultimate to 5-day ratio. The diffuse load survey data verified the existence of significant carbonaceous BOD marsh loads, and showed that nitrogen uptake in the marshes is an important factor in the nitrogen balance in South San Francisco Bay. The benthal oxygen demand measurements were inconclusive. On the basis of this data, the indicated model coefficients have been adjusted and applied in recalibration of the model against the October, 1977 conditions.

2. The calibration work using the October, 1977 data and the adjusted model coefficients necessitated further changes in the 1975 model: marsh related loading of ammonia nitrogen were reduced to 5% of their previous values; nutrient uptake of nitrite and nitrate in marsh areas was added to the model, and minor changes to the models dispersive transport regime were implemented.

Benthal oxygen demands and reaeration coefficients were both reduced to more accurately represent limited bottom demand measurements collected during 1967 and to satisfy other model calibration requirements.

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EMERSON, N. J. • WALNUT CREEK, CALIFORNIA • KNOXVILLE, TENNESSEE • ARLINGTON, TEXAS

3. Verification of the recalibrated model using November, 1977 and June, 1967 data sets demonstrates the adequacy of the model for evaluating two independent data sets. The verification analysis shows good agreement between observed and computed concentrations in all sloughs for each water quality indicator.

An analysis of the model verifications and model sensitivity analysis results lead to four principal study conclusions. These are summarized as follows:

1. The diffuse load surveys and the recalibration analysis verify the conclusion of the 1975 study that significant background loads enter South San Francisco Bay and certain of its tributary sloughs from marsh areas. The carbonaceous BOD and ammonia nitrogen loads are estimated to be 2250 and 75 pounds per day per square mile respectively. These loads are a major factor contributing to existing dissolved oxygen levels in Alviso, Mowry, and Newark Sloughs. The model results indicate that dissolved oxygen water quality in all other regions of the study area is dominated by point source impacts from dischargers to the South Bay.

2. The model sensitivity analysis suggests that the primary uncertainty in the recalibrated model is the tradeoff between bottom demand and atmospheric reaeration in the sloughs. The absence of reliable benthal demand estimates for 1977 is considered to be a shortcoming of the model recalibration study, but one which is not expected to compromise the study conclusions regarding project alternatives.

3. Dissolved oxygen improvements will result in South San Francisco Bay from any of the alternative discharge scenarios considered. However, an analysis of planning alternatives for the South Bay Discharger Authority for 1995 canning season conditions shows that water quality standards are not expected to be satisfied under any of the alternatives in Artesian, Alviso, Mowry, and Newark Sloughs, and in Upper Coyote Creek. The no project alternatives and upgrading treatment at San Jose/Santa Clara are shown to cause additional violations of standards in Guadalupe Slough and on the Main Transect. No significant water quality improvements are computed in going from the Nearest Deep Water Discharge alternative to the DP 31 alternative.

4. Because of the residual uncertainties in the model verification due to estimating benthal oxygen demand rates in the tidal sloughs, an "optimistic" projection case was analyzed for the following conditions:

Discharge to DP 31
1995 Canning Season Conditions
NO BENTHAL DEMAND

This analysis indicates that even under "optimistic" loading conditions, water quality standards are expected to be violated in Artesian, Alviso, Mowry and Newark Sloughs. The principal factor contributing to these violations is background carbonaceous loads from marsh areas.

In interpreting these results and conclusions, the reader should be mindful of the high nutrient (nitrogen) uptake rates measured in the marsh areas. If the current hypothesis, that decaying vegetation is largely responsible for marsh loads, is a viable one (as it appears to be) point source reductions and/or relocation of nutrient loads could alter future marsh loadings to the sloughs. This issue is beyond the scope of this study.

May we express our appreciation to you for your continued cooperation and assistance. If we can be of further assistance in interpreting or clarifying any of the material contained in this report, we would be pleased to meet with you.

Respectfully Submitted,
HYDROSCIENCE, INC.

Charles L. DuJardin

Respectfully submitted
HYDROSCIENCE, INC.

Daniel S. Szumski, P.E.

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I. INTRODUCTION

Two previous mathematical modeling investigations have been conducted to evaluate the water quality impacts of discharge alternatives for the South Bay Discharger Authority. Alternatives considered during these studies included various combinations of treatment plant upgrades and discharge relocation.

A modeling study conducted by Hydroscience during 1972 concluded that water quality standards could be maintained in the main body of South San Francisco Bay for a discharge alternative which included additional point source treatment, and relocation of the South Bay Dischargers load to a location North of Dumbarton Bridge. Later that same year (1972) Water Quality Standards for dissolved oxygen in the South Bay area were revised and made more restrictive.

A second study was conducted in 1975 as part of an Environmental Impact Statement for the South Bay Discharger Authority project. This second study had two additional constraints which were not considered in the 1972 investigation. First, it evaluated dissolved oxygen impacts relative to the new standards, and secondly, it investigated water quality impacts in the small tidal sloughs contiguous to the main body of South San Francisco Bay. This study concluded that dissolved oxygen water quality in the main portion of South San Francisco Bay would be in compliance with the minimum dissolved oxygen standard of 5.0 mg/l, and would periodically violate the 90 percentile standard at most locations. The study also concluded that dissolved oxygen concentration in many of the tidal sloughs is dominated by non-controllable background loads, and would not comply with water quality objectives for any of the discharge alternatives which were evaluated. Water quality data supported the conclusion that significant background loads existed in the tidal sloughs.

The 1975 study conclusions were somewhat tentative since there were no recent measurements to support the magnitude of the assigned background loading to the sloughs from bottom demands and marsh loadings. Resolution of this data deficiency was recognized as being important, because the modeling study conclusions for many regions of the South Bay were contingent upon the existance of the background loads. The present study reanalyses the partially verified conclusions of the 1975 study regarding background loads.

The purpose of this study is to increase the accuracy and insure the reliability of the 1975 model by reverifying the model coefficients and loads using a more complete data base than was available when the model was verified in 1975. Toward this end four intensive water quality surveys were conducted by E.H. Smith and Associates between August and November, 1977 to provide additional information for evaluating model coefficients and loads. Particular attention was directed toward quantifying marsh related loadings and reaction rate constants. Revised reaction rates and loads developed during this study are incorporated into the model to test its sensitivity to the South Bay Dischargers Authority planning alternatives. Surveys 3 and 4, conducted during October and November of 1977, collected the most complete data for these purposes.

II. REVERIFICATION OF THE MODEL

The intensive water quality surveys conducted by E.H. Smith & Associates in October and November of 1977 were used for recalibration of the mathematical model. All data were tidally translated to mean-tide conditions. After re-calibration with the October, 1977 data set, the model was reverified with the November, 1977 (Winter) and June, 1976 (Summer) survey period data. Model segmentation along with receiving water sample locations of the 1977 surveys are shown on Figure 1. The reader is referred to the 1975 study for a description of the model and the 1975 model verification.

A. Transport Verification

Some minor changes in the model transport coefficients were implemented as a result of the reverification effort. These changes include increasing the longitudinal dispersion coefficients between Calvaras Point and Dumbarton Bridge, and connecting Mayfield Slough with the Main Bay Transect through dispersive transport. Salinity verification work was the major criteria for these changes which are supported by both the 1977 and the 1967 data sets. Although the overall effect on the model accuracy is not significant, these changes tend to improve model verification, particularly in Mayfield Slough. Final salinity verifications for the 1976 and 1977 data sets are shown in Figures 2 through 4.

These salinity verifications once again demonstrate the models ability to account for the various transport mechanisms responsible for observed water quality gradients in the study area. These transport mechanisms are: tributary and point source flow discharges, tidal mixing, and large scale circulation patterns. Transport verifications of this kind are important because the same mechanisms responsible for salinity gradients in the South Bay are also responsible for the transport of water quality variables contributing to observed dissolved oxygen concentrations gradients.

B. Dissolved Oxygen Verification

1. Carbonaceous BOD Verification

Review of the 1975 water quality analysis indicates that carbonaceous BOD is a major cause of dissolved oxygen deficit in the South Bay system. Major sources of carbonaceous BOD in that analysis included the point source discharges from the South Bay Dischargers, other discharges to the South Bay, and an assigned marsh loading rate. This assigned marsh loading rate of carbonaceous BOD accounted for a significant portion of both the observed dissolved oxygen deficit and carbonaceous BOD concentration in the sloughs. The distributed loading rate of carbonaceous BOD was, however, estimated on the basis of limited available data, and was assigned a magnitude which reproduced observed receiving water concentrations. Computation of the marsh loading rate on this basis was dependent upon the carbonaceous BOD decay rate in the model for which no data was available.

Analysis of the long-term BOD data collected during the surveys from September to November 1977 provides estimates of the carbonaceous BOD reaction rate as well as estimates of the ultimate carbonaceous BOD at each receiving water station. Long term BOD data were analyzed for all receiving water samples, diffuse loading station samples, and point source samples. The analysis showed that receiving water carbonaceous BOD reaction rates for the October and November surveys averaged about 0.07/day. A 0.2/day reaction rate was assumed in the 1975 analysis. Table 1 summarizes the receiving water ultimate carbonaceous BOD concentrations and reaction rates for the October and November surveys. Figure 5 displays a typical receiving water long-term BOD response. In this Figure, total BOD is the measured BOD of an unfiltered sample; inhibited BOD is the measured BOD of an unfiltered sample to which a chemical agent has been added to suppress nitrification. The BOD reaction rate, K_r, and the ratio of the ultimate BOD to the 5 day BOD were calculated for all samples collected by E.H. Smith and Associates. The ratio of ultimate BOD to 5 day BOD is important from a technical standpoint in the modeling effort and is related to the BOD reaction rate, K_r.

The ultimate carbonaceous BOD to five-day BOD ratio ($CBOD_u/CBOD_5$) for the diffuse loading data averages approximately 3.6. However, the $CBOD_u/CBOD_5$ ratio for point sources indicated an average ratio of about 1.5. For these reasons the ultimate carbonaceous BOD concentration is used in calibrating the October, 1977 survey period. Table 2 summarizes the $CBOD_u/CBOD_5$ ratios at diffuse loading stations while Figure 6 displays

TABLE 1

COMPUTED ULTIMATE CARBONACEOUS BOD CONCENTRATIONS (mg/l) AND REACTION RATES (DAY^{-1}) FOR RECEIVING WATER SAMPLES - OCTOBER AND NOVEMBER, 1977

(DATA COLLECTED BY E.H. SMITH AND ASSOCIATES)

	OCTOBER, 1977		NOVEMBER, 1977	
STATION[(1)]	$CBOD_u$	K_r	$CBOD_u$	K_r
31-I	5.8	.04	4.6	.11
31-II	4.6	.05	3.1	.18
31-III	33.0	.03	3.5	.12
20-I	4.3	.06	8.6	.12
20-II	-	-	6.5	.06
20-III	5.1	.04	7.0	.09
8-I	5.7	.06	7.5	.10
8-II	6.6	.03	8.5	.09
8-III	6.6	.03	11.0	.04
4-I	18.0	.06	-	-
4-II	6.9	.07	30.0	.08
4-III	0.8	.09	38.0	.06
1	6.7	.06	84.0	.09
104	45.0	.04	58.0	.04
116	23.0	.05	23.0	.07
120	6.3	.05	-	-
123	-	-	10.0	.07
126	29.0	.02	9.5	.12
128	3.1	.09	4.5	.08
130	18.0	.03	18.0	.12
133	5.1	.05	7.6	.16
137-I	3.2	.10	10.0	.06
137-II	5.5	.03	7.8	.09
137-III	1.9	.11	7.7	.04

(1) Refer to Figure 1, I, II, III indicate sample number

TABLE 2

COMPUTED $\text{CBOD}_u/\text{CBOD}_5$ RATIOS
FROM DIFFUSE LOADING MONITORING DATA
OCTOBER AND NOVEMBER, 1977
(DATA COLLECTED BY E.H. SMITH AND ASSOCIATES)

STATION-SAMPLE	$\text{CBOD}_u/\text{CBOD}_5$ RATIO OCTOBER	$\text{CBOD}_u/\text{CBOD}_5$ RATIO NOVEMBER
NE-1	2.3	2.8
2	2.6	2.6
3	2.2	4.2
4	3.5	3.0
5	2.2	2.7
6	5.0	4.1
MO-1	8.0	4.7
2	3.8	2.8
3	5.2	3.5
4	3.2	3.1
5	4.3	2.7
6	4.6	4.8
FT-1	4.3	3.2
2	3.3	4.0
3	2.9	2.2
4	2.6	1.8
5	3.2	6.7
6	1.9	3.7
7	-	3.5
8	2.7	5.9
9	3.2	3.0
10	2.2	6.0
11	2.4	5.2
12	2.9	-

the results of an October, 1977 carbonaceous BOD calibration without diffuse loadings.

The average carbonaceous BOD reaction rate, 0.07/day, is employed in this analysis. The data observed shown in Figure 6 is the tidally translated receiving water data, and the average concentrations at the diffuse loading stations. The results show that the model underestimates ultimate carbonaceous BOD concentrations in most regions of the model, particularly in Alviso, Mowry, and Newark sloughs where large marsh areas exist. Thus, there appears to be another major source of BOD in these areas. This is particularly evident when one notes that there are no major point sources on two of these sloughs (Alviso and Mowry). It is significant to note that the measured carbonaceous BOD_u concentrations in these sloughs for both the receiving water stations and diffuse loading stations are higher in the upstream end of the sloughs. This implies that a loading exists near the upstream end of the sloughs, in the vicinity of the marshes. The term marsh load, as used in this report, is the total net load to the receiving water from marsh areas adjacent to those waters. It includes carbonaceous and nitrogenous materials and makes no distinction as to the principal source of the material.

Using the observed data from October, 1977, the distributed marsh loading rate was estimated to be about 2250 lb $\text{CBOD}_u/\text{mi}^2/\text{day}$. The calibration for October, 1977 conditions, utilizing this load, is presented in Figure 7. This loading rate was tested by applying it in verifying the November, 1977 and June, 1967 data sets. The results are displayed in Figures 8 and 9. The Figures show good agreement between the computed concentrations and those observed in the physical system. Note the continued good verification in Alviso, Mowry, and Newark Sloughs. The ultimate to 5-day BOD ratio for the verifications is taken from the October, 1977 calibration.

The verification analysis indicates that a consistent set of model loadings and other coefficients favorably describe carbonaceous BOD concentrations in the receiving water for two independent verification periods. The reader should note that the point source response (Figure 6) in the sloughs which have no point source discharges (Alviso, Mowry, Mayfield, and Newark slough are not dominated by point sources) shows minimal carbonaceous BOD response. The magnitude of the discrepancy between observed concentrations and those computed by the model for this case is large, and can only be attributed to diffuse loadings within the sloughs themselves. Section III of the report discusses the diffuse loading survey results which confirm the conclusions of the study regarding marsh loads.

2. Nitrogen Verification

a) Total Nitrogen Balance

The 1975 analysis of South San Francisco Bay concludes that ammonia-nitrogen is a significant source of oxygen uptake in the system. Thus, nitrogen reactions are, by implication, an important component of the dissolved oxygen balance. These conclusions, however, were based on an estimate of ammonia-nitrogen marsh loadings which was supported only by observed ammonia nitrogen concentrations.

The 1977 surveys provide the data necessary to analyze the nitrogen system more thoroughly. The model is used as a tool to explore the reaction kinetics of total nitrogen and its components. By these means a more reliable estimate of oxidizable nitrogen loads from marsh areas is developed. Total nitrogen is the sum of organic nitrogen, ammonia nitrogen, nitrite nitrogen and nitrate nitrogen. The inorganic nitrogen components are ammonia, nitrite and nitrate.

Valuable insight into the mechanisms of the nitrogen system is gained by assuming that total nitrogen is conservative, and enters the South Bay system from major point sources and boundary loads only. The concentration profiles in the sloughs and main stem of the bay were computed for this condition. The receiving water response for the October, 1977 survey period is shown in Figure 10. A comparison of the computed total nitrogen concentrations to the observed data leads to the conclusion that total nitrogen is nonconservative within the system, and that there exists within the system a mechanism responsible for the removal of total nitrogen. This removal cannot be attributed to plant or bacterial biomass which remains suspended in the water column because that biomass would be included in the total nitrogen measurement as part of the organic nitrogen component. The non-conservative nature of total nitrogen is discussed further in Section III of this report where a diffuse loading analysis is presented. The non-conservative behavior of total nitrogen necessitates an analysis of the inorganic nitrogen components: ammonia nitrogen (NH_3) and the nitrogen oxides nitrite (NO_2) and nitrate (NO_3).

b) Nitrogen Component Analysis

Since the major purpose of evaluating nitrogen kinetics is to determine their impacts on the dissolved oxygen concentration, the emphasis of this analysis is placed on evaluating the ammonia-nitrite-nitrate balance in the estuary. Once again, valuable insight into this balance is gained by computing the receiving water response assuming that the nitrogen components to be conservative, and that only point source discharges of nitrogen are present. No nitrification is assumed in this first analysis.

The results of these computations are shown on Figures 11 and 12 for the October, 1977 survey period. Comparison of nitrite-nitrate computed response shown in Figure 11 and the observed data indicates that nitrite-nitrate is non-conservative. This removal of nitrite-nitrate nitrogen from the water column might possibly be attributed to vegetation uptake within the bay. The marsh load areas of the bay maintain vegetation populations that could be a source of nitrite-nitrate uptake. However, this study does not draw any conclusions regarding mechanisms responsible for NO_2 and/or NO_3 uptake other than that these nitrogen components behave as nonconservative variables. Section III of this report discusses this point further.

Comparison of the computed ammonia-nitrogen concentration with the observed data (Figure 12) suggests that ammonia-nitrogen is also non-conservative. This observation is consistent with an analysis of the measured long-term BOD data which indicates a nitrogenous oxygen demand throughout the bay. The non-conservative characteristics of ammonia-nitrogen is therefore attributed to nitrification, a transformation of ammonia-nitrogen to nitrite-nitrate nitrogen.

The analysis of long-term BOD data for the October and November, 1977 survey periods was used to compute the nitrogenous BOD (NBOD) reaction rate. The results show an average NBOD reaction rate of 0.1/day for both the receiving water samples and diffuse loading stations, (a 0.2/day reaction rate was assumed in the 1975 analysis). Table 3 summarizes the results of this long term BOD analysis.

The 0.1/day reaction rate was applied to ammonia-nitrogen. The computed ammonia concentrations are compared to the October, 1977 data in Figure 13. The model indicates that a small diffuse loading of ammonia to the system is required to account for the ammonia nitrogen deficit in Figure 13. The computed concentration in sloughs which are not affected by point sources such as Alviso and Mowry Sloughs are lower than the observed data. Newark Slough shows a more favorable comparison. However, Newark Slough has a smaller total marsh area than Alviso or Mowry Sloughs, and the marsh area is concentrated near the mouth of the slough.

TABLE 3

COMPUTED NITROGENOUS REACTION RATES FROM LONG TERM BOD RECEIVING WATER DATA
(DATA COLLECTED BY E.H. SMITH AND ASSOCIATES)

RECEIVING WATER STATION(1)	OCTOBER SURVEY K_n(1/DAY)	NOVEMBER SURVEY K_n(1/DAY)
31-I	.08	.26
31-II	-	.08
31-III	.05	.03
20-I	.12	
20-II	-	.04
20-III	.05	
8-I	.08	
8-II	-	
8-III	.07	
4-I	.06	
4-II	.07	.10
4-III	.14	
1	.13	.07
104	.07	.06
118	.16	
120	.11	
123	-	
126	.06	
128	.13	.07
130	.09	
133	.10	
137-I	.18	-
137-II	-	-
137-III	.11	.10

(1) Refer to Figure 1

The model was employed as a tool to determine that the ammonia nitrogen marsh load is approximately 75 lb NH_3-N/mi^2/day. This loading rate is 5% of the loading rate assumed in the 1975 study, and is based on long term BOD data analysis and a more complete analysis of the nitrogen reactions in South San Francisco Bay. The reason for the favorable ammonia nitrogen calibration of the 1975 model is attributed to the higher loads and reaction rate employed in that work (compare Figures 12 and 13).

The marsh loading rates for ammonia-nitrogen may be checked further from stoichiometric relationships between nitrogen and carbon in marine plants. Previous studies have estimated that 0.7 to 4.0% of the total dry weight of aquatic weeds is nitrogen (1) and that approximately 45% of the total dry weight is carbon(2). Assuming that carbonaceous BOD oxidizes to CO_2, one can show that 2.67 grams of oxygen are consumed in completely oxidizing 1.0 gram of plant carbon. Based on the above assumptions, the $CBOD_u$ to nitrogen ratio may range from 30:1 to 170:1. These estimates are probably high because some of the carbon in the biomass is not oxidizable. The comparable ratio developed from the carbonaceous BOD and ammonia nitrogen diffuse loading rate (2250 #CBOD/day-mi^2, 75#NH_3-N/day-mi^2) is 30:1. Although this calculation is crude and may vary depending upon the type of marine vegetation, it does give credibility to the ammonia nitrogen diffuse loading rates calculated for the Bay Area, and shows consistency between the nitrogen and carbon loads from the marsh areas.

Figure 14 displays the ammonia nitrogen calibration for the October, 1977 survey period. This calibration employs the 0.1/day nitrification rate and a diffuse marsh loading rate of 75 lb NH_3-N/mi^2/day. The November, 1977 ammonia nitrogen verification is displayed in Figure 15. Again, it indicates good agreement between computed and observed concentrations in all regions including areas which have large marsh areas.

Previous results indicated the existence of a removal mechanism for nitrite-nitrate in the system (Figure 11). In performing final calibrations of the nitrite/nitrate system, uptake kinetics had to be included in the model to reproduce the observed concentrations from the October survey period. The calibration also included nitrification and its associated production of NO_2 and NO_3. The rate constants for nitrite-nitrate removal developed during the October calibration remained constant in subsequent verifications, while the nitrification rate was temperature corrected between survey periods. Calibration of the observed nitrite-nitrate nitrogen concentrations for October, 1977 is shown on Figure 16. The November verification for NO_2-NO_3 is displayed in Figure 17.

The total nitrogen (Total N = Organic + Ammonia + NO_2 + NO_3) calibration and verification which includes all loads and reaction mechanisms discussed in this Section is shown on Figures 18 and 19. The good agreement between the model computation and the observed data adds to the credability of a model which contains these loads and reaction mechanisms. It is especially noteworthy that each of the principal nitrogen components has also been calibrated against the October data set and verified against the November data set.

3. Bottom Demand

The field surveys proposed for this study were scheduled to analyze approximately 30 bottom demand samples throughout the South Bay area. However, only three locations were actually sampled. The results of these analyses indicated benthal oxygen uptake rates of 0.1 gms/m^2-day or less. The accuracy of these measurements is questionable. Consequently, no useful bottom uptake information was available to update the information contained in the 1975 model Therefore, a conservative position has been assumed in the present model where the bottom demand is estimated to be 1.0 gm/M^2-day in all sloughs. This assumption is supported by the 1967 field survey data collected in South San Francisco Bay.

It should be pointed out that the 1975 study indicates the bottom demand to be a relatively large portion of the total deficit response in some areas, particularly the sloughs. Bottom demand could, therefore, be a more important factor with regard to the total dissolved oxygen balance than is indicated in this study. This point is discussed further in the sensitivity section (V) of this report.

4. Dissolved Oxygen Calibration

The total deficit profiles in the receiving waters of South San Francisco Bay were computed for the October, 1977 survey periods using: the computed distributed (marsh) loading rates of 2250 lb CBOD/mi^2/day and 75 lb NH_3N/mi^2/day, a carbonaceous BOD reaction rate of 0.07/day; a nitrification rate of 0.1/day and estimate bottom demands. Oxygen saturation was determined from observed salinity and temperature measurements(3). The calculated dissolved oxygen was then checked against observed data and was found to be higher than the measured concentrations. Reaeration rates in the model were then reviewed to determine whether they should be adjusted.

The review showed that surface transfer coefficients (K_L) in the 1975 model were approximately 10 ft/day which is at the upper limit for this coefficient in estuaries. Previous studies have evaluated transfer coefficients (K_L) in estuaries as a function of wind speed. These studies have shown K_L to range from about 2 to 15 ft/day with approximately 75% of the values below 10 ft/day(4). Thus a lower value of K_L was warranted.

The transfer coefficients were adjusted in order to reproduce the 1977 dissolved oxygen data for the October, 1977 survey. The K_L values were reduced in the sloughs and the lower portions of the South Bay to 6.0 ft/day and as low as 2.0 ft/day in Newark and Mowry sloughs. These oxygen transfer coefficients are consistent with rates in other estuarine systems(5). The model response for dissolved oxygen during the October, 1977 survey period is shown in Figure 20. The reaeration coefficients were subsequently tested in verification of other survey periods.

All changes in loading rates and reaction rates discussed thus far were then applied to the November, 1977 and June, 1967 survey conditions. Verification of the dissolved oxygen model for these periods is displayed in Figures 21 and 22. The model shows good agreement between the observed data and the calculated response.

III. ANALYSIS OF DIFFUSE LOADING SURVEY DATA

The diffuse loading survey data was analyzed to determine if two conclusions of this study could be substantiated by independent measurements. These conclusions are: 1) that carbonaceous BOD loads originate from diffuse sources within the sloughs tributary to South San Francisco Bay, and 2) that the uptake of total nitrogen within marsh areas indicated in Section II.B.2.a and II.B.2.b is justified. It should be noted that the term "marsh load" is descriptive of the total load from marsh areas including decaying vegetation and any other sources of CBOD and ammonia nitrogen within the marshes.

The field work conducted as part of this study collected long term BOD data and nitrogen data at two hour intervals over a tidal cycle on three sloughs: Mowry, Newark, and Faber Tract. Each has marsh areas upstream of the sampling location. The data were analyzed to determine the net intratidal transport of BOD and total nitrogen into or out of the region upstream of the sampling site. The principal purpose of this investigation was to determine if the existance of marsh loads to the receiving water can be substantiated by field measurements.

A. Carbonaceous BOD Marsh Loads

Data collected during surveys 3 and 4 at each of the diffuse loading locations is summarized in Figure 23 and Figure 24. The figures show the mass transfer rate at each sampling interval, computed as the product of the measured ultimate BOD concentration and the measured flow. Ebb indicates mass is leaving the upstream area. Flood indicates mass is entering the area. Also shown in the figure is the computed total pounds of ultimate BOD measured during the two phases of the tidal cycle. Tables 4 and 5 summarizes the results of the analysis.

The tables indicate that all three sloughs have a net positive marsh loading rate. That is, carbonaceous loads leaving the marsh areas are greater than those entering the area. The magnitude of the loading rate is different than that employed in the model, 2250 $\mathrm{lbs/mi^2/day}$ of carbonaceous $\mathrm{BOD_u}$, but this is not surprising given the difficulties in accurately measuring flows at the diffuse loading sites. The analysis does indicate trends and substantiates various conclusions of the 1975 study.

The important conclusion from this analysis is that the measured data indicates a substantial areal loading rate of carbonaceous $\mathrm{BOD_u}$ from marsh areas adjacent to South San Francisco Bay.

B. Total Nitrogen Uptake in Marsh Areas

The diffuse loading data collected during surveys 3 and 4 at each sampling location is summarized in Figures 25 and 26. Again, the mass transfer rates are displayed in pounds per day. The results of the nutrient uptake analysis on the data is presented in Tables 6 and 7.

The Tables indicate that Newark Slough and Faber Tract both have high nutrient uptake rates and that there is essentially no uptake in

TABLE 4

MEASURED ULTIMATE CARBONACEOUS $\mathrm{BOD_u}$ LOADS
FROM MARSH AREAS
OCTOBER 1977 DIFFUSE LOAD SURVEY

LOCATION	ESTIMATED MARSH AREA UPSTREAM ($\mathrm{mi^2}$)	TOTAL MASS INTO MARSH (pounds)	TOTAL MASS LEAVING MARSH (pounds)	NET MASS LOAD (pounds/cycle)	AREAL LOADING RATE ($\mathrm{lbs/mi^2/day}$)
Mowry Slough	0.3	1,527	1,790	263	1,800
Newark Slough	0.2	10,143	16,780	6,637	66,000
Faber Tract	0.1	2,226	3,570	1,344	27,000

TABLE 5

MEASURED ULTIMATE CARBONACEOUS BOD_u LOADS FROM MARSH AREAS

NOVEMBER 1977 DIFFUSE LOAD SURVEY

LOCATION	ESTIMATED MARSH AREA UPSTREAM (mi^2)	TOTAL MASS INTO MARSH (pounds)	TOTAL MASS LEAVING MARSH (pounds)	NET MASS LOAD (pounds/cycle)	AREAL LOADING RATE ($lbs/mi^2/day$)
Mowry Slough	0.3	900	1,380	480	1,600
Newark Slough	0.2	4,600	4,940	340	1,700
Faber Tract	0.1	2,000	2,710	710	7,100

TABLE 6

MEASURED TOTAL NITROGEN UPTAKE IN MARSH AREAS

OCTOBER 1977 DIFFUSE LOAD SURVEY

LOCATION	ESTIMATED MARSH AREA UPSTREAM (mi^2)	TOTAL MASS INTO MARSH (pounds)	TOTAL MASS LEAVING MARSH (pounds)	NET MASS UPTAKE (pounds/cycle)	AREAL RATE UPTAKE ($lbs/mi^2/day$)
Mowry Slough	0.3	374	424	-50	-300
Newark Slough	0.2	1,875	1,166	709	7,100
Faber Tract	0.1	917	625	292	5,800

TABLE 7

MEASURED TOTAL NITROGEN UPTAKE IN MARSH AREAS

NOVEMBER 1977 DIFFUSE LOAD SURVEY

LOCATION	ESTIMATED MARSH AREA UPSTREAM (mi^2)	TOTAL MASS INTO MARSH (pounds)	TOTAL MASS LEAVING MARSH (pounds)	NET MASS UPTAKE (pounds/cycle)	AREAL RATE UPTAKE ($lbs/mi^2/day$)
Mowry Slough	0.3	320	180	140	470
Newark Slough	0.2	690	580	110	550
Faber Tract	0.1	475	430	45	450

Mowry Slough during October. The November data shows nitrogen uptake in all three sloughs. The absolute magnitudes of the numbers are not as important as the overall conclusion that nutrient uptake mechanisms in marsh areas is justified in the model. As in the case of the BOD diffuse loading analysis, the analysis is subject to uncertainty because of measurement error and is only presented as an indicator of the adequacy of model coefficients, and to substantiate conclusions presented in this report.

IV. DISCUSSION OF MODEL RECALIBRATION AND VERIFICATION

The model recalibration analysis presented in Section II and the analysis of diffuse loads discussed in Section III indicates that the model verification is a good representation of conditions currently existing in South San Francisco Bay. The model verification is based upon measured data for all model coefficients except for bottom demand and reaeration. Measured point source loads were applied for each of the calibration and verification periods. Marsh loads were observed during the diffuse load surveys and were adjusted to areal loads which satisfied the October, 1977 calibration. Both the point source loads and the marsh loads were then employed in obtaining satisfactory verification of the model for November, 1977 and June, 1967 conditions.

A nitrogen balance on the system indicates a significant nutrient uptake within the marsh areas. This was substantiated by an analysis of the total nitrogen from the diffuse loading surveys. Further calibration work on ammonia nitrogen concentrations indicated small diffuse loads of ammonia which satisfy stoichiometric relationships for decaying vegetative matter, the presumed source of the marsh loads.

Finally, receiving water reaction kinetics for carbonaceous BOD (K_r) and nitrogenous BOD (K_n) were calculated from long term BOD data. These reaction rates and the calculated ultimate BOD to 5-day BOD ratios were applied in the model for calibration of October, 1977 conditions and subsequent verification of the model against two other data sets. In aggregate, the model verification is considered to be good.

V. MODEL SENSITIVITY ANALYSIS

A sensitivity analysis was performed in order to define the reliability of the calibrations and projections contained in this study and the 1975 study. Possible ranges of variability in the reaction rates, bottom demand, and diffuse loading rates are analyzed. The net effects of uncertainties in these coefficients are discussed with regard to the reliability of the verification and the analysis of planning alternatives.

The major components which affect the dissolved oxygen balance in South San Francisco Bay are: 1) the South Bay Discharger Authority and Union Sanitation District loads, 2) diffuse loadings of carbonaceous and nitrogenous BOD from marsh areas, 3) benthal demands, and 4) other point source treatment plant discharges of oxygen demanding material. The computed dissolved oxygen deficit due to these components for the October, 1977 survey are shown on Figure 27 and Table 8. The figure shows the effects on receiving water dissolved oxygen concentrations due to the principal sources of oxygen demanding material and demonstrates the relative importance of these sources.

Under the October, 1977 survey conditions, the major source of deficit on the Main Bay transect, Mayfield Slough, Guadalupe Slough, Artesian Slough, Upper Coyote Creek, Mud Slough, and Newark Slough are the point sources of oxygen demanding material. The major source of oxygen deficit in Alviso Slough, Mowry Slough and the upper portions of Newark Slough are bottom demand and marsh related loads. These latter sloughs are not dominated by point sources.

TABLE 8

COMPUTED DISSOLVED OXYGEN COMPONENTS
OCTOBER 1977 SURVEY

SEGMENT	SOUTH BAY DISCHARGES	OTHER DISCHARGES	BOTTOM DEMAND	MARSH LOADS	TOTAL DEFICIT	SATURATION LEVEL	DISSOLVED OXYGEN
1	6.33	0.15	0.55	0.20	7.23	8.53	1.29
2	5.55	0.12	0.56	0.22	6.47	8.30	1.83
3	4.16	0.09	0.56	0.21	5.03	8.09	3.06
4	3.28	0.07	0.56	0.21	4.13	7.95	3.82
5	2.51	0.06	0.55	0.21	3.33	7.80	4.47
6	1.82	0.05	0.55	0.22	2.65	7.69	5.04
7	1.27	0.05	0.48	0.16	1.97	7.60	5.62
8	1.07	0.05	0.45	0.14	1.73	7.57	5.84
9	0.79	0.06	0.38	0.11	1.36	7.52	6.16
10	0.83	0.06	0.39	0.12	1.41	7.53	6.12
11	0.74	0.06	0.37	0.11	1.30	7.51	6.20
12	0.73	0.06	0.37	0.11	1.29	7.51	6.21
13	0.64	0.07	0.37	0.11	1.20	7.55	6.34
14	0.66	0.07	0.37	0.11	1.23	7.55	6.32
15	0.65	0.07	0.36	0.10	1.19	7.56	6.37
16	0.65	0.08	0.37	0.11	1.23	7.55	6.31
17	0.66	0.06	0.37	0.11	1.23	7.55	6.31
18	0.63	0.07	0.35	0.10	1.17	7.55	6.38
19	0.66	0.08	0.37	0.11	1.24	7.55	6.30
20	0.66	0.09	0.37	0.11	1.25	7.55	6.30
21	0.63	0.07	0.35	0.10	1.17	7.55	6.38
22	0.68	0.08	0.37	0.12	1.27	7.55	6.28
23	0.67	0.10	0.38	0.12	1.28	7.54	6.26
24	0.64	0.08	0.36	0.10	1.19	7.55	6.36
25	0.68	0.13	0.39	0.12	1.34	7.53	6.19
26	0.67	0.13	0.40	0.12	1.34	7.53	6.19
27	0.65	0.11	0.36	0.11	1.26	7.54	6.27
28	0.65	0.15	0.42	0.13	1.36	7.52	6.16
29	0.60	0.18	0.44	0.12	1.36	7.45	6.09
30	0.45	0.23	0.46	0.11	1.29	7.43	6.13
31	0.47	0.22	0.47	0.11	1.29	7.43	6.13
32	0.29	0.24	0.47	0.10	1.10	7.41	6.30

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TABLE 8 (Continued)

COMPUTED DISSOLVED OXYGEN COMPONENTS
OCTOBER 1977 SURVEY

SEGMENT	SOUTH BAY DISCHARGES	OTHER DISCHARGES	BOTTOM DEMAND	MARSH LOADS	TOTAL DEFICIT	SATURATION LEVEL	DISSOLVED OXYGEN
33	0.31	0.23	0.51	0.09	1.16	7.41	6.24
34	0.33	0.26	0.50	0.10	1.20	7.41	6.20
35	0.29	0.27	0.50	0.09	1.17	7.40	6.23
36	0.23	0.28	0.50	0.11	1.13	7.40	6.26
37	0.28	0.21	0.52	0.08	1.10	7.40	6.30
38	0.30	0.26	0.52	0.09	1.19	7.40	6.21
39	0.15	0.30	0.52	0.07	1.05	7.38	6.33
40	0.18	0.30	0.52	0.11	1.12	7.39	6.27
41	0.24	0.18	0.52	0.08	1.05	7.40	6.35
42	0.28	0.26	0.54	0.09	1.16	7.40	6.22
43	0.11	0.30	0.52	0.06	1.01	7.38	6.37
44	0.11	0.28	0.50	0.09	1.01	7.38	6.37
45	0.19	0.20	0.52	0.07	0.99	7.40	6.40
46	0.19	0.27	0.54	0.07	1.09	7.39	6.30
47	0.08	0.31	0.52	0.05	0.98	7.38	6.39
48	0.08	0.28	0.50	0.06	0.95	7.38	6.43
49	0.16	0.17	0.51	0.06	0.93	7.39	6.45
50	0.17	0.25	0.55	0.07	1.05	7.38	6.33
51	0.08	0.31	0.52	0.04	0.96	7.38	6.41
52	0.06	0.27	0.51	0.05	0.90	7.38	6.47
53	0.14	0.15	0.51	0.06	0.88	7.39	6.50
54	0.14	0.21	0.54	0.06	0.96	7.38	6.41
55	0.07	0.31	0.52	0.04	0.95	7.38	6.42
56	0.05	0.27	0.52	0.04	0.90	7.38	6.47
57	0.10	0.13	0.50	0.05	0.79	7.39	6.59
58	0.13	0.19	0.53	0.06	0.92	7.38	6.45
59	0.06	0.31	0.51	0.03	0.93	7.38	6.44
60	0.04	0.25	0.53	0.03	0.86	7.38	6.51
61	0.08	0.12	0.47	0.04	0.71	7.37	6.65
62	0.09	0.15	0.51	0.05	0.81	7.38	6.55
63	0.06	0.32	0.51	0.03	0.93	7.38	6.44
64	0.03	0.28	0.59	0.02	0.93	7.37	6.44

TABLE 8 (Continued)

COMPUTED DISSOLVED OXYGEN COMPONENTS
OCTOBER 1977 SURVEY

SEGMENT	SOUTH BAY DISCHARGES	OTHER DISCHARGES	BOTTOM DEMAND	MARSH LOADS	TOTAL DEFICIT	SATURATION LEVEL	DISSOLVED OXYGEN
65	0.06	0.13	0.47	0.03	0.72	7.37	6.65
66	0.07	0.16	0.50	0.04	0.79	7.37	6.57
67	0.05	0.36	0.49	0.05	0.94	7.38	6.43
68	0.02	0.35	0.62	0.01	1.02	7.36	6.35
69	0.05	0.17	0.49	0.05	0.76	7.36	6.60
70	0.06	0.24	0.51	0.03	0.86	7.37	6.51
71	0.02	0.49	0.47	0.01	1.01	7.39	6.39
72	0.01	0.51	0.57	0.01	1.11	7.36	6.27
73	0.04	0.27	0.50	0.02	0.84	7.36	6.51
74	0.02	0.52	0.45	0.02	1.02	7.40	6.37
75	0.01	0.62	0.43	0.00	1.00	7.40	6.31
76	0.01	0.73	0.44	0.01	1.20	7.40	6.19
77	0.01	0.93	0.40	0.01	1.36	7.41	6.04
78	0.00	1.21	0.34	0.00	1.57	7.42	5.85
79	0.00	0.49	0.39	0.00	0.89	7.42	6.53
80	0.01	0.92	0.43	0.00	1.38	7.41	6.02
81	0.01	1.17	0.34	0.00	1.53	7.42	5.89
82	0.00	1.45	0.25	0.00	1.71	7.43	5.71
83	0.00	1.37	0.24	0.00	1.63	7.43	5.80
84	0.00	1.50	0.19	0.00	1.71	7.43	5.72
85	0.00	1.47	0.16	0.00	1.65	7.44	5.79
86	0.00	1.52	0.16	0.00	1.70	7.44	5.74
87	0.00	0.77	0.02	0.00	0.79	7.41	6.62
88	0.00	1.46	0.12	0.00	1.59	7.44	5.84
89	0.00	1.57	0.09	0.00	1.67	7.44	5.77
90	0.00	0.80	0.02	0.00	0.90	7.44	6.53
91	0.00	1.46	0.06	0.00	1.53	7.45	5.91
92	0.00	1.51	0.05	0.00	1.56	7.45	5.89
93	0.00	1.44	0.02	0.00	1.46	7.46	5.99
94	0.00	1.24	0.00	0.00	1.25	7.46	6.21
95	0.00	1.43	0.02	0.00	1.46	7.45	5.99
96	0.00	1.38	0.01	0.00	1.40	7.46	6.06

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TABLE 8 (Continued)

COMPUTED DISSOLVED OXYGEN COMPONENTS
OCTOBER 1977 SURVEY

SEGMENT	SOUTH BAY DISCHARGES	OTHER DISCHARGES	BOTTOM DEMAND	MARSH LOADS	TOTAL DEFICIT	SATURATION LEVEL	DISSOLVED OXYGEN
97	0.00	0.99	0.01	0.00	1.30	7.46	6.45
98	0.06	3.74	0.26	0.01	3.09	8.26	5.16
99	0.70	4.44	0.45	0.12	5.71	9.09	3.57
100	2.86	2.23	0.53	0.46	5.10	8.91	2.70
101	4.08	1.30	0.55	0.55	5.49	8.67	2.13
102	5.33	0.58	0.55	0.45	5.93	8.63	1.70
103	1.28	0.00	0.00	0.00	1.28	8.18	6.89
104	1.40	0.00	0.01	0.00	1.42	8.25	6.83
105	1.51	0.00	0.02	0.00	1.53	8.32	6.79
106	2.12	0.00	0.09	0.00	2.22	8.40	6.17
107	3.12	0.00	0.19	0.00	3.32	8.47	5.15
108	4.02	0.00	0.29	0.01	4.33	8.55	4.22
109	4.97	0.00	0.37	0.02	5.37	8.62	3.25
110	5.73	0.00	0.45	0.04	6.22	8.68	2.45
111	6.38	0.01	0.50	0.06	7.02	8.66	1.55
112	6.62	0.05	0.54	0.15	7.42	8.65	1.22
113	7.95	0.10	0.31	0.10	8.39	8.92	0.42
114	6.32	0.02	0.47	0.15	5.99	8.48	1.49
115	5.05	0.03	0.53	0.17	5.82	8.26	2.45
116	4.59	0.05	0.55	0.19	5.40	8.15	2.75
117	4.30	0.06	0.56	0.20	5.13	8.12	2.99
118	1.41	0.07	1.35	4.51	7.35	8.16	0.53
119	1.92	0.04	1.30	2.13	5.41	7.88	2.47
120	2.26	0.05	0.98	0.86	4.10	7.77	3.55
121	3.44	0.06	0.45	0.10	4.01	8.91	4.90
122	5.78	0.00	0.40	0.10	5.30	8.82	2.52
123	4.52	0.00	0.46	0.09	5.09	8.36	3.25
124	3.29	0.00	0.48	0.10	3.90	7.99	4.05
125	1.58	0.01	0.47	0.10	2.29	7.72	5.43
126	0.28	0.03	1.42	1.85	3.59	7.97	4.38
127	0.62	0.02	1.30	0.79	2.77	7.64	4.87
128	0.77	0.05	0.95	0.50	2.31	7.56	5.24

TABLE 8 (Continued)

COMPUTED DISSOLVED OXYGEN COMPONENTS
OCTOBER 1977 SURVEY

SEGMENT	SOUTH BAY DISCHARGES	OTHER DISCHARGES	BOTTOM DEMAND	MARSH LOADS	TOTAL DEFICIT	SATURATION LEVEL	DISSOLVED OXYGEN
129	1.68	0.01	1.51	2.80	6.02	7.83	1.50
130	2.23	0.02	1.53	2.15	5.94	7.76	1.81
131	2.51	0.03	1.44	1.45	5.44	7.69	2.25
132	2.59	0.05	1.15	0.73	4.52	7.63	3.10
133	2.12	0.06	0.76	0.34	3.30	7.63	4.35
134	1.33	0.08	0.57	0.22	2.21	7.58	5.35
135	0.72	0.06	0.37	0.09	1.25	7.71	6.45
136	0.67	0.06	0.37	0.10	1.22	7.59	6.35
137	0.64	0.07	0.37	0.10	1.20	7.56	6.35
138	0.64	0.08	0.37	0.10	1.21	7.55	6.34
139	0.65	0.09	0.37	0.11	1.23	7.55	6.31
140	0.66	0.05	0.60	0.15	1.48	7.61	6.13
141	0.73	0.07	0.52	0.13	1.46	7.55	6.09

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It is important to note the relative effects on receiving water dissolved oxygen concentrations due to benthal demands and marsh loads at various locations. Significantly larger deficits are caused by background loads in Alviso, Mowry, and Newark Sloughs. Since no treatment plants exists on two of these sloughs, minimal flushing from advective flow occurs in these areas. The retention time in these sloughs, therefore, is much greater than in other areas where significant point source flow additions occur, and their response is more sensitive to concentrations of background oxygen demanding materials and bottom uptakes.

The receiving water response to each of these major components contributing to dissolved oxygen deficit is dependent on one or more model coefficients which were analyzed in subsequent sensitivity analyses. These include the: 1) reaeration coefficient, 2) carbonaceous deoxygenation rate, 3) nitrification rate, 4) benthal uptake rate, and 4) diffuse loading rate. The following is a discussion of the model sensitivity to these parameters.

The computed concentrations of the ultimate carbonaceous BOD for various diffuse loading rates is presented in Figure 28. The loading rates used in the analysis are 0%, 50%, and 150% of the loading rate used for verification. The October, 1977 survey condition is chosen for this and subsequent sensitivity analyses. The results show little model sensitivity in sloughs which are dominated by point source impacts, but very large sensitivity in Alviso, Mowry, and Newark Sloughs which are not affected by point source flows (flushing). Figure 29 shows a similar sensitivity for computed dissolved oxygen impacts due to the diffuse carbonaceous BOD loading rate. The areas affected most are those areas which are not directly influenced by point sources.

Further insight into these sensitivity analyses is gained by analyzing the model sensitivity to the carbonaceous BOD reaction rate. The computed $CBOD_u$ concentrations, using a rate of 50% and 150% of the measured

laboratory rate (0.07/day), are presented in Figure 30. In this case, all areas but Artesian Slough show significant sensitivity to the reaction rate. The sensitivity of dissolved oxygen concentration to this reaction rate is shown on Figure 31.

Comparison of the model sensitivity analysis for carbonaceous BOD_u marsh loadings (Figure 28) with the model sensitivity to the deoxygenation rate (Figure 30) indicates some obvious conclusions which are noted here. In critical areas such as Alviso, Mowry, and Newark Sloughs, one might conclude that the ultimate carbonaceous BOD data could be calibrated by changing both the loading rate and reaction rate. For example, doubling the reaction rate and halving the marsh loading rate would produce a similar computed carbonaceous BOD_u concentration profile in these sloughs. Comparison of the dissolved oxygen concentration sensitivity to the reaction rate (K_r), and the marsh loading rate show that the dissolved oxygen profiles in these sloughs would be similarly affected.

This line of reasoning does not, however, take into account the effect that these changes would have on the total model calibration. Figures 28 and 30 demonstrate that the computed carbonaceous BOD_u concentrations on the main bay transect are sensitive to reaction rate (K_r) but are not sensitive to the marsh loading rates. Thus, alteration of these model coefficients would not calibrate against observed data.

An important conclusion drawn for the above sensitivities is that significant changes in marsh loading rates and reaction coefficients (K_r, K_n) will significantly alter the model calibration in sloughs which are not affected by point sources as well as on the main transect.

A similar analysis is presented for the ammonia-diffuse loadings. Figures 32 and 33 demonstrate that only Alviso, Mowry, and Newark Sloughs are affected by marsh loadings to a minor degree, less than 1.0 mg/l in these sensitivity analyses. However, certain regions of the model, in particular, the main bay transect, Guadalupe Slough, Alviso Slough, and Newark Slough are quite sensitive to the nitrification rate (K_n) employed in the model calibration. Figures 34 and 35 presents these model sensitivity analysis for K_n. The conclusions discussed above regarding trade-offs between marsh loading rates and K_r similarly apply to significant changes in the nitrification rate developed from the October, 1977 calibration and the long term BOD data.

The benthal oxygen uptake was assumed to be 1.0 gm/m^2-day in the sloughs and from 0.5 to 0.75 gm/m^2-day in the main bay. These estimates are reasonable, and are conservative considering the values measured by E.H. Smith and Associates. Those measurements are, however, considered questionable. Since the assigned benthal uptake rates are only estimates, it was necessary to study the dissolved oxygen sensitivity to the bottom demand in a more rigorous manner to determine the importance of accurate bottom demand measurements.

An analysis of dissolved oxygen sensitivity to bottom demand is most conveniently interpreted when analyzed with a comparable dissolved oxygen sensitivity analysis to the model reaeration coefficient. The current model employed estimates of benthal demand and was assigned reaeration coefficients necessary to reproduce dissolved oxygen data observed in the Bay for the October, 1977 survey period. Figures 36 and 37 demonstrate the sensitivity of computed October, 1977 dissolved oxygen concentration to bottom demand and reaeration coefficient. The results show a very large sensitivity to the reaeration coefficient in all areas of the model while a significant sensitivity to the bottom demand exists in sloughs receiving no point sources of flow. This latter point is significant from the standpoint of projecting water quality under proposed planning alternatives which remove point source flow from the slough. A discussion of the importance of this effect is presented here to clarify issues surrounding the current estimates of benthal demand.

The bottom demands employed in this study are unverified by field measurements. This can have significant consequences in forecasting the water quality impacts of alternative discharge scenarios for the South Bay Discharger Authority. The reasons for this are as follows:

1. The model calibration itself is insensitive to bottom demands because this demand is compensated for by the assignment of an atmospheric reaeration rate in the calibration effort. For example, if after calibration, bottom demands are increased by 100 pounds/day of oxygen uptake within a region of the model, the reaeration rate can be adjusted to yield a net load of 100 pounds/day of dissolved oxygen in that same region. The calibration would remain unchanged. The validity of the change would be contingent upon whether the reaeration coefficients were still within acceptable limits for the receiving water body.

2. When one makes forecasts which result in large load changes (magnitude or location), the model cannot compensate for inaccurate tradeoffs between bottom demand and reaeration coefficients. The accuracy of an assigned reaeration coefficient is dependent upon the accuracy of all the components which affect the dissolved oxygen balance. If one of these components, such as bottom demand, has not been accurately defined, the reaeration coefficient may be adjusted to an assigned value during calibration which represents observed dissolved oxygen conditions but does not accurately account for the relative impacts of all factors in the dissolved oxygen balance. Therefore, uncertainties in the reaeration coefficient can result in uncertainties in dissolved oxygen projections. The degree to which the projections might be uncertain will depend upon the degree to which the model calibration is uncertain. It is important, therefore, to obtain estimates of all components of the dissolved oxygen balance, especially in areas where major load reductions and/or relocations are proposed. The current model includes best available estimates for these model components.

VI. EVALUATION OF REVERIFICATION IMPACTS ON PROJECTION ANALYSES

The reverification analysis of the San Francisco Bay model makes numerous changes to the loads and reaction kinetics of the model based on measurements collected during the 1977 water quality monitoring program. The revised model differs from its predecessor in that more reliable estimates of marsh loads, BOD decay rates, nitrification rates and nutrient uptake have been developed from direct and indirect measurements. The net effect of these changes is to improve the model calibration and verification for three independent data sets.

The section of the report dealing with model sensitivity does, however, indicate that a potentially important loading component, benthal oxygen demand, has not yet been adequately quantified. The consequence of this is an uncertainty regarding the tradeoff between benthal oxygen demand and atmospheric reaeration in the model verification and in subsequent projection work. Nevertheless, the model has been used to reanalyze selected projection conditions so that the sensitivity of the water quality decision making process to the reverification effort could be assessed.

In general, the projection analyses indicate that the four proposed alternatives:

1. No Action
2. Upgrade Treatment at San Jose/Santa Clara
3. Nearest Deep Water Discharge Location
4. Discharge at DP 31

will not satisfy water quality objectives established for the study area. However, the model results do indicate significant improvements over current water quality conditions as well as improvements over projected water quality conditions contained in the 1975 report. These improvements are both improvements in the projected dissolved oxygen concentrations, as well as imporvements in the spatial extent of compliance with water quality standards. It should be noted that these water quality enhancements are due principally to reductions in ammonia marsh loads and reductions in benthal oxygen demands in the sloughs. In the first case, NBOD marsh load reductions, the 1977 data sets support load changes. However, in the case of bottom demands, the basis for load reductions to a uniform value of 1 gm/m^2/day in the slough is more tenuous. The 1977 measurements were very low, and the 1967 measurements on the main bay transect were generally around 1 gm/m^2/day. It is not unreasonable that bottom uptakes in the confined sloughs could be higher. Higher bottom uptakes would necessitate revised reaeration rates in the sloughs. There is no measurement basis at present for either change.

In any event, water quality projections were recomputed using the reverified model. The lower bottom demands used in these projections suggest that the water quality projections provide a higher estimate of dissolved oxygen water quality than would be achieved under more severe benthal oxygen demand assumptions.

Figures 36, 39, 40, and 41 display the revised water quality projections for the four alternative plans in a 1995 canning season. This is the most critical condition from a loading standpoint. The solid bar at the bottom of each figure indicates the spatial extent of projected dissolved oxygen water quality standard violations in the 1975 report. The open bar indicates the extent of violations projected in the current study.

For the No Project alternative, dissolved oxygen water quality violations are expected to occur over 4 miles of the main bay transect near Coyote Creek, and violations will continue to occur in all of the South Bay Sloughs. Upgrading treatment at San Jose Santa Clara is expected to reduce the extent of violations on the main bay transect to 2 miles and brings Mud slough into compliance with water quality standards.

The Deep Water Discharge Alternative projection shows that the entire Main Bay transect, and Guadalupe and Mud sloughs are expected to be in compliance with standards. In addition, minor improvements in the extent of violations on Upper Coyote Creek occur.

The DP 31 discharge alternative yields no significant changes in the spatial extent of water quality violations over those indicated for the Deep Water Discharge Alternative.

A final projection condition was analyzed as a sensitivity on those presented in Figures 38 through 41. In this projection which is displayed in Figure 42, the bottom demand is set to zero. The projection shows that even under this "optimistic" condition, violation of the 90 percentile standards are expected to occur in Artesian, Alviso, Mowry, and Newark Sloughs. The reader should note that this last projection probably overestimates atmospheric reaeration for the reasons discussed in Section V.

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(3)"New Tables for Oxygen Saturation of Seawater," E.J. Green and Carrot, D.E., Journal of Marine Research; 25(2), 1967.

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FIGURES

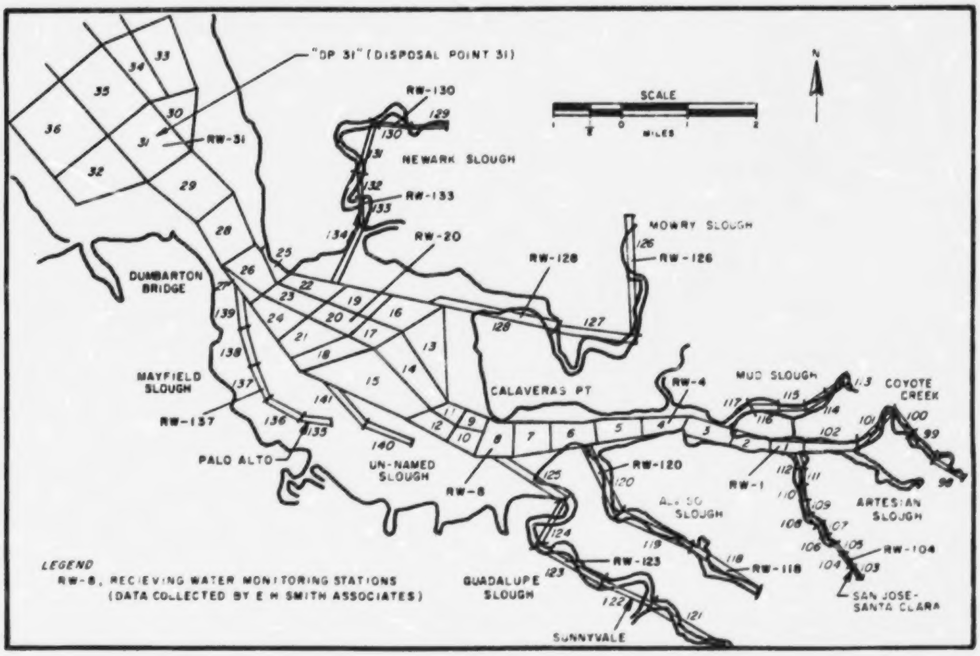
"DP 31" (DISPOSAL POINT 31)
RW-31
RW-130
NEWARK SLOUGH
RW-133
RW-20
RW-128
MOWRY SLOUGH
RW-126
SCALE
1
½
0
1
2
MILES
N
DUMBARTON BRIDGE
MAYFIELD SLOUGH
RW-137
PALO ALTO
UN-NAMED SLOUGH
RW-8
CALAVERAS PT
RW-4
MUD SLOUGH
COYOTE CREEK
RW-1
RW-120
ALVISO SLOUGH
ARTESIAN SLOUGH
RW-104
RW-118
RW-123
GUADALUPE SLOUGH
SUNNYVALE
SAN JOSE-SANTA CLARA
LEGEND
RW-8, RECIEVING WATER MONITORING STATIONS
(DATA COLLECTED BY E H SMITH ASSOCIATES)

FIGURE 1
SEGMENTATION OF SOUTH SAN FRANCISCO BAY MODEL (DETAIL)
AND RECIEVING WATER SAMPLE LOCATIONS

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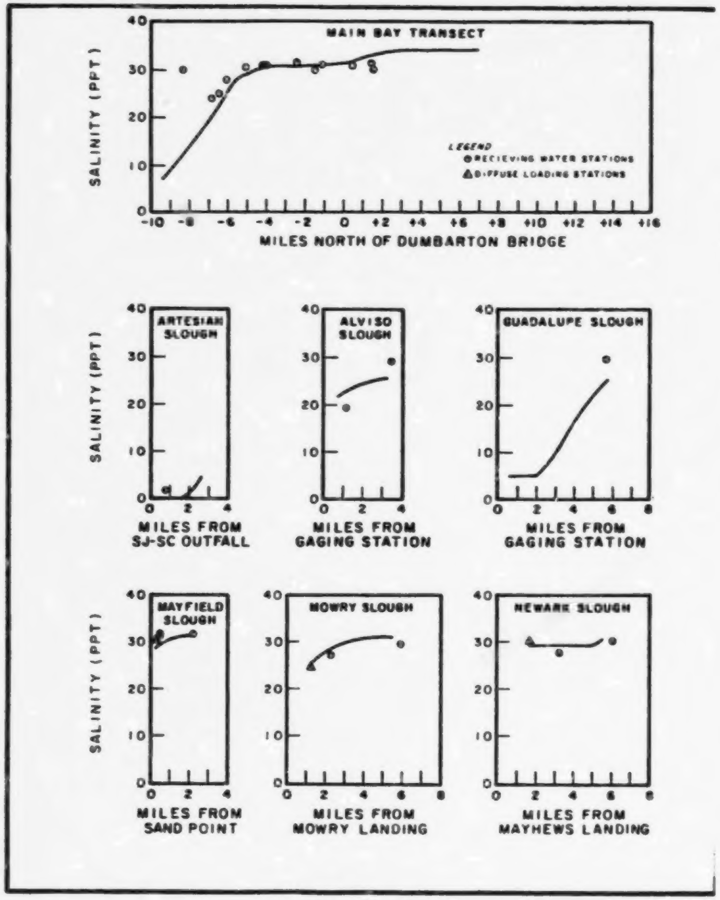

FIGURE 2

COMPUTED AND OBSERVED SALINITY CONCENTRATION
(SURVEY 3-OCTOBER, 1977)

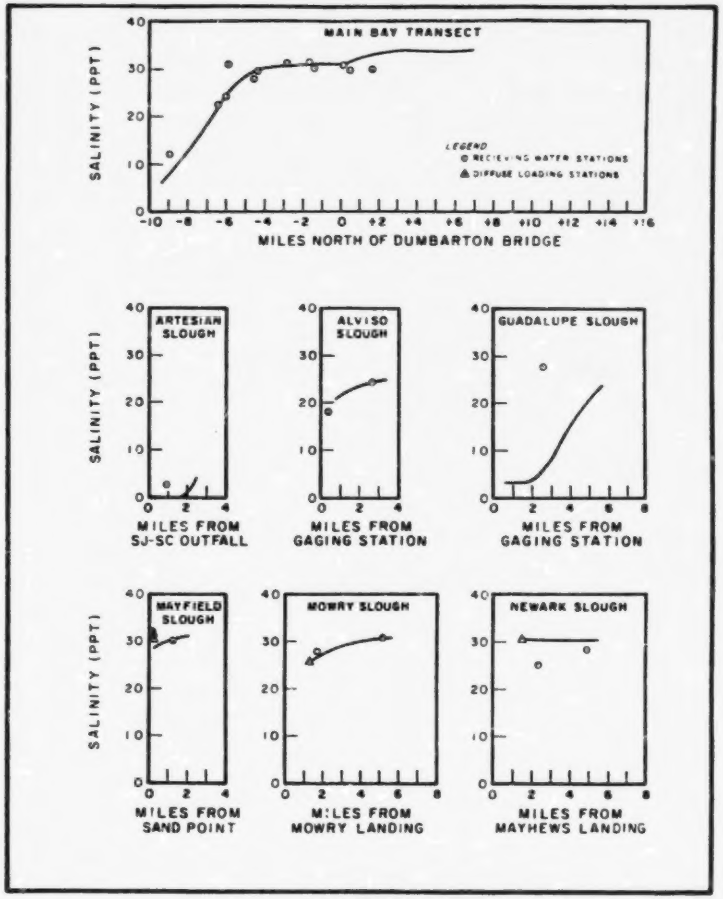

FIGURE 3

COMPUTED AND OBSERVED SALINITY CONCENTRATION
(SURVEY 4-NOVEMBER, 1977)

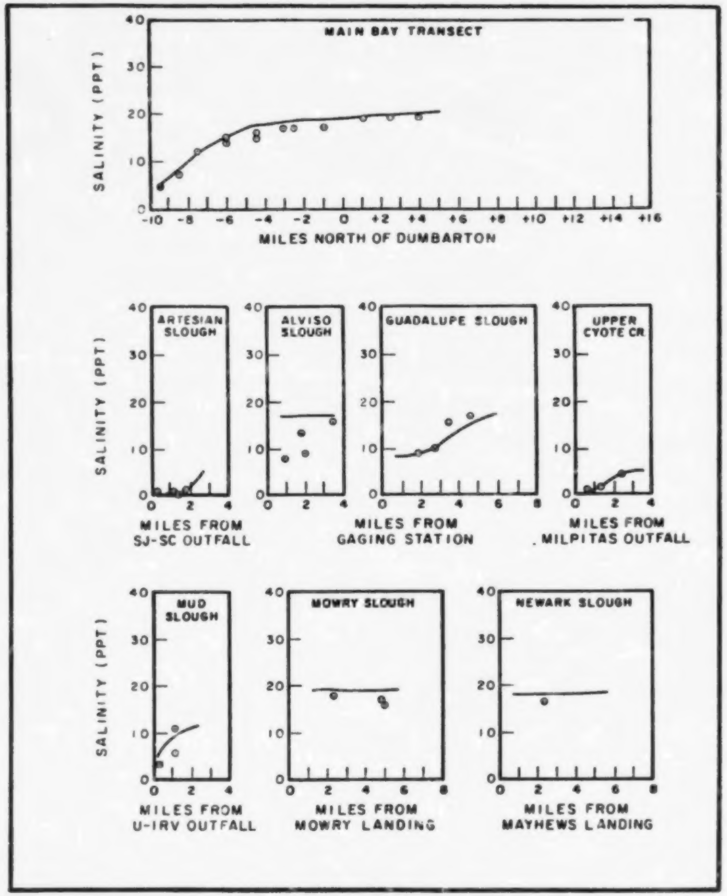

FIGURE 4

COMPUTED AND OBSERVED SALINITY CONCENTRATION
(JUNE, 1967)

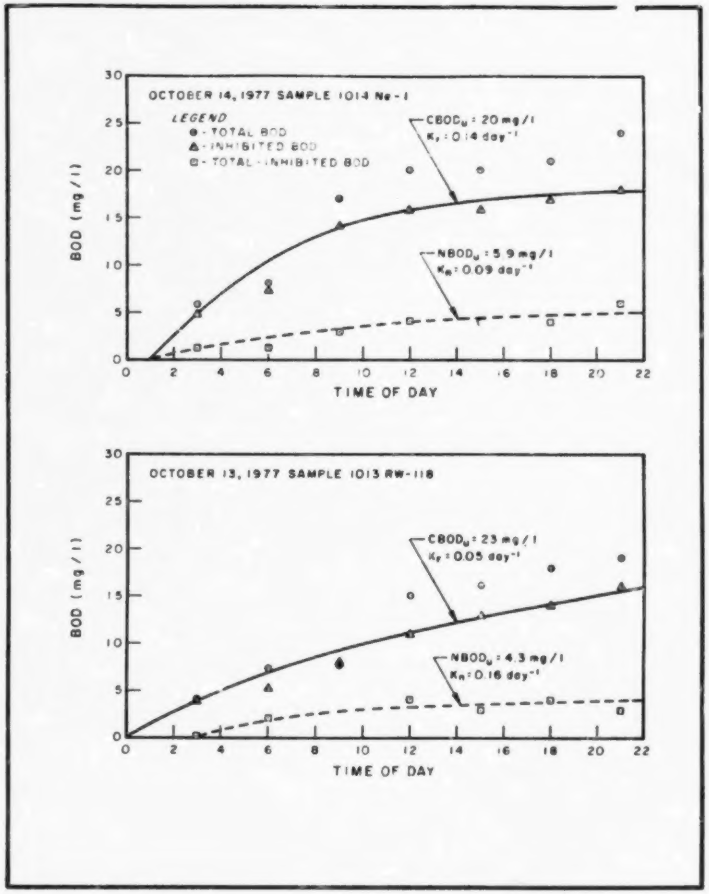

FIGURE 5

TYPICAL LONG TERM BOD RESPONSES

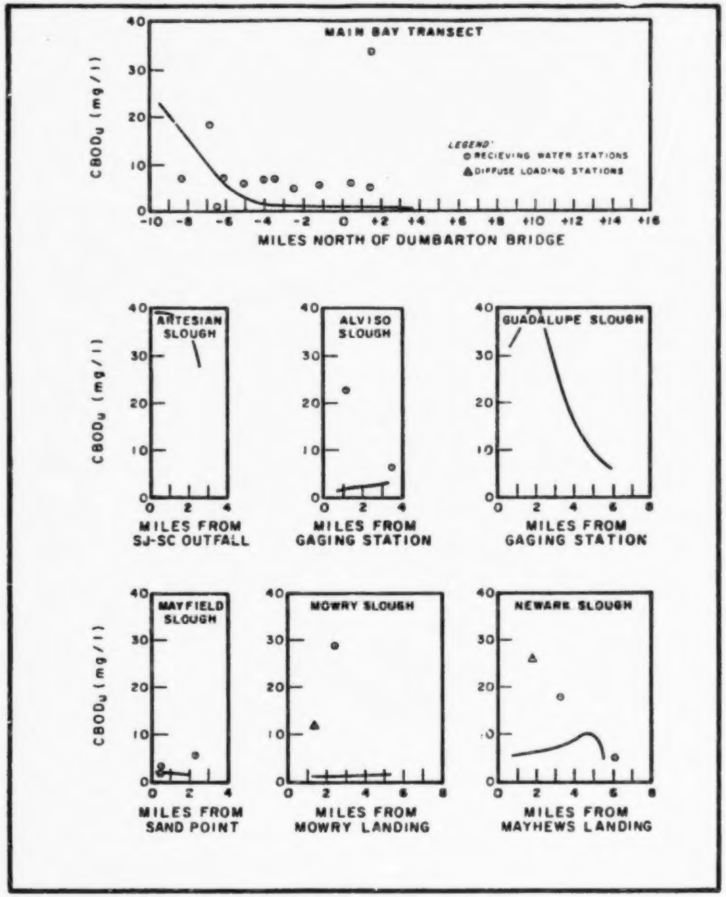

FIGURE 6

COMPARISON OF COMPUTED AND OBSERVED
ULTIMATE CARBONACEOUS BOD
(OCTOBER, 1977 CALIBRATION - NO MARSH LOADS OF CBOD$_u$)

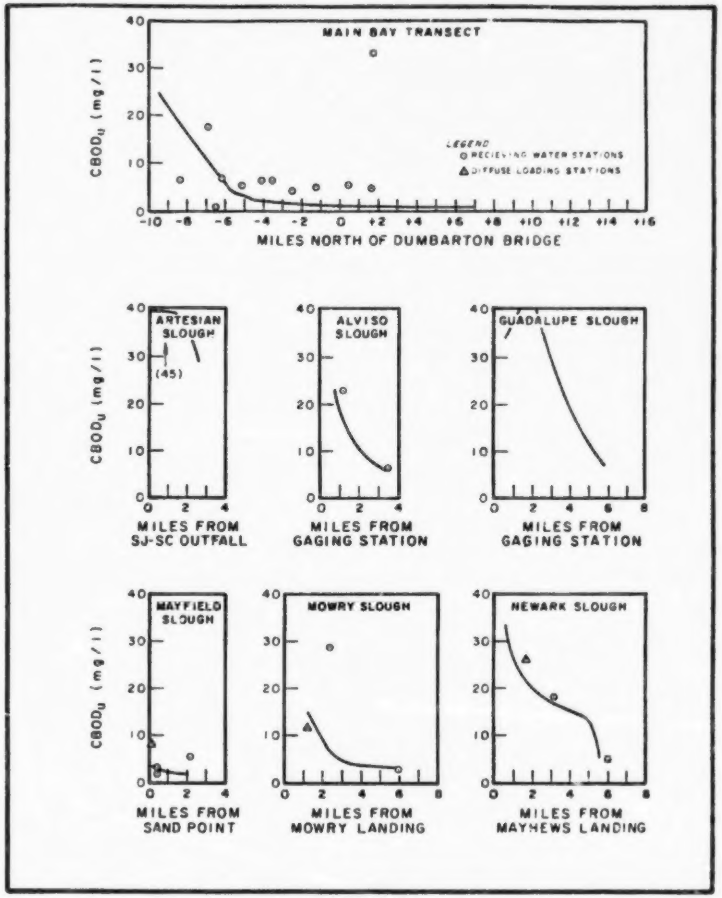

FIGURE 7

COMPARISON OF COMPUTED AND OBSERVED
ULTIMATE CARBONACEOUS BOD
(OCTOBER, 1977 CALIBRATION - INCLUDING MARSH LOADS)

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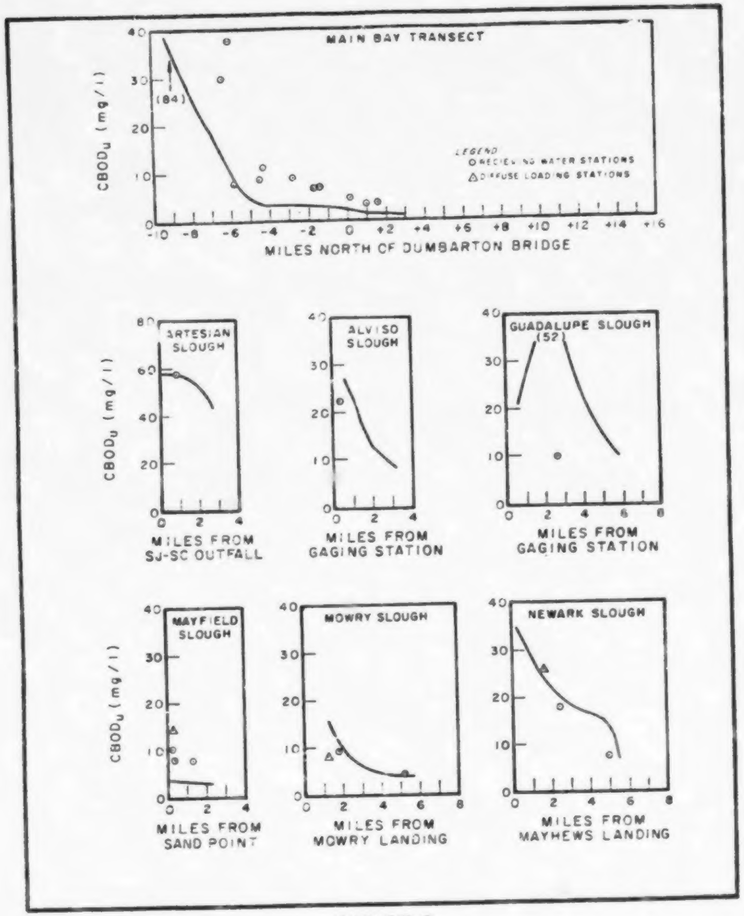

FIGURE 8

COMPUTED AND OBSERVED ULTIMATE CARBONACEOUS BOD
(NOVEMBER, 1977 VERIFICATION)

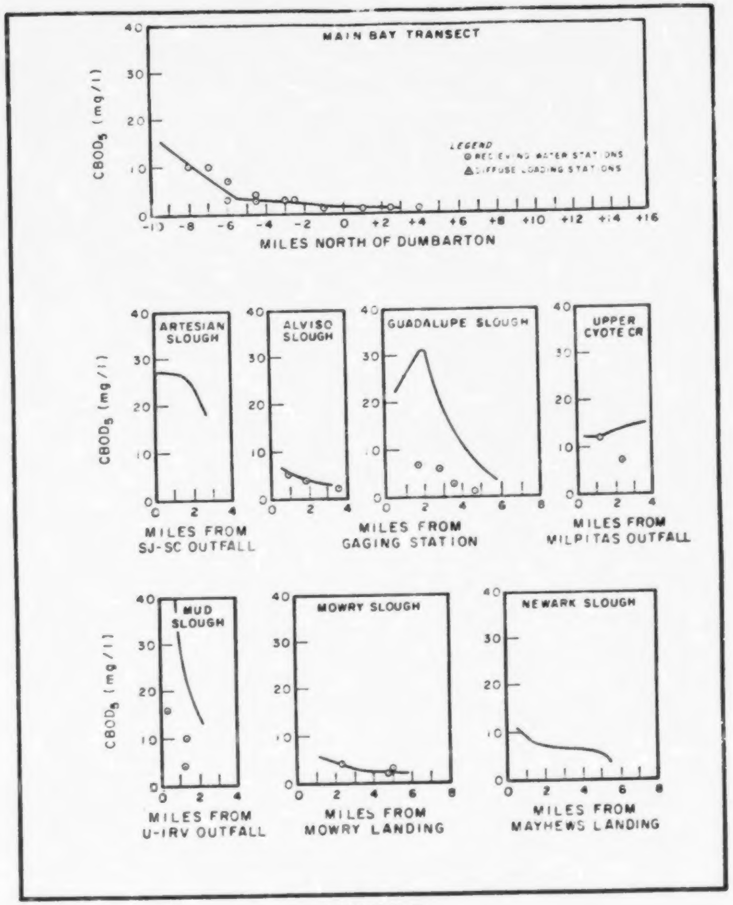

FIGURE 9

COMPUTED AND OBSERVED CARBONACEOUS BOD_5
(JUNE, 1967 VERIFICATION)

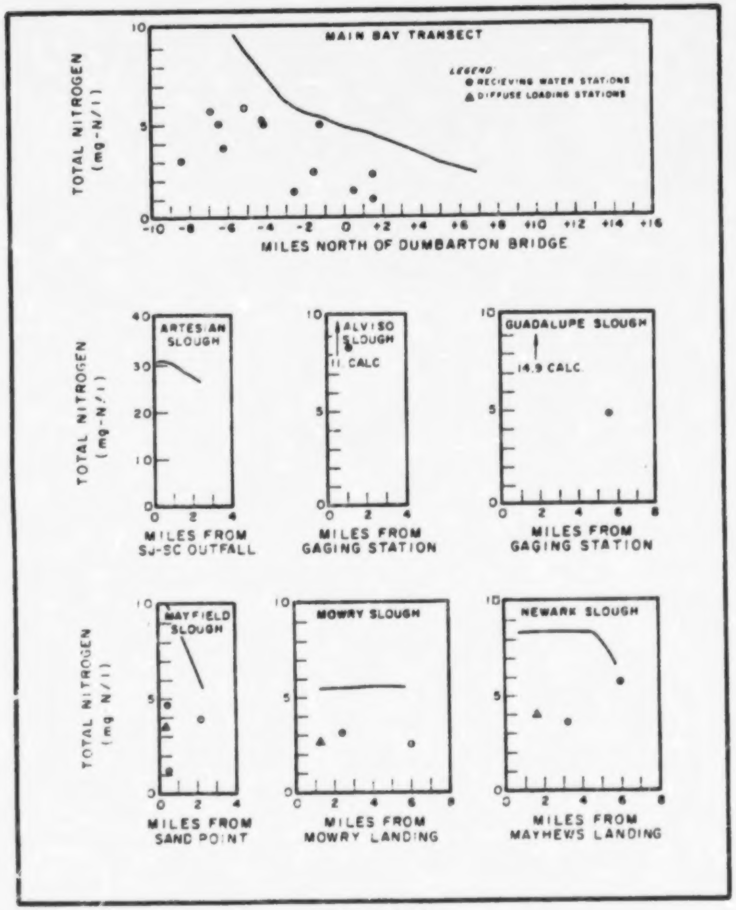

FIGURE 10

COMPARISON OF COMPUTED AND OBSERVED TOTAL NITROGEN
(OCTOBER, 1977 CALIBRATION–NITROGEN AS CONSERVATIVE)

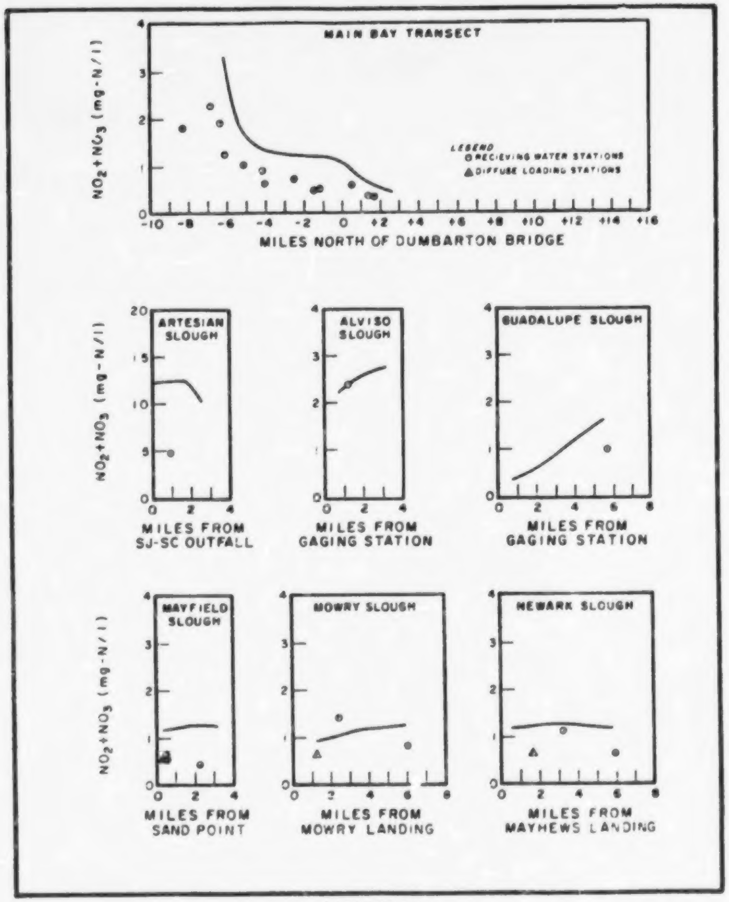

FIGURE 11

COMPARISON OF COMPUTED AND OBSERVED NITRITE-NITRATE (CONSERVATIVE)
(OCTOBER, 1977 CALIBRATION–NO MARSH LOADS OF NITROGEN)

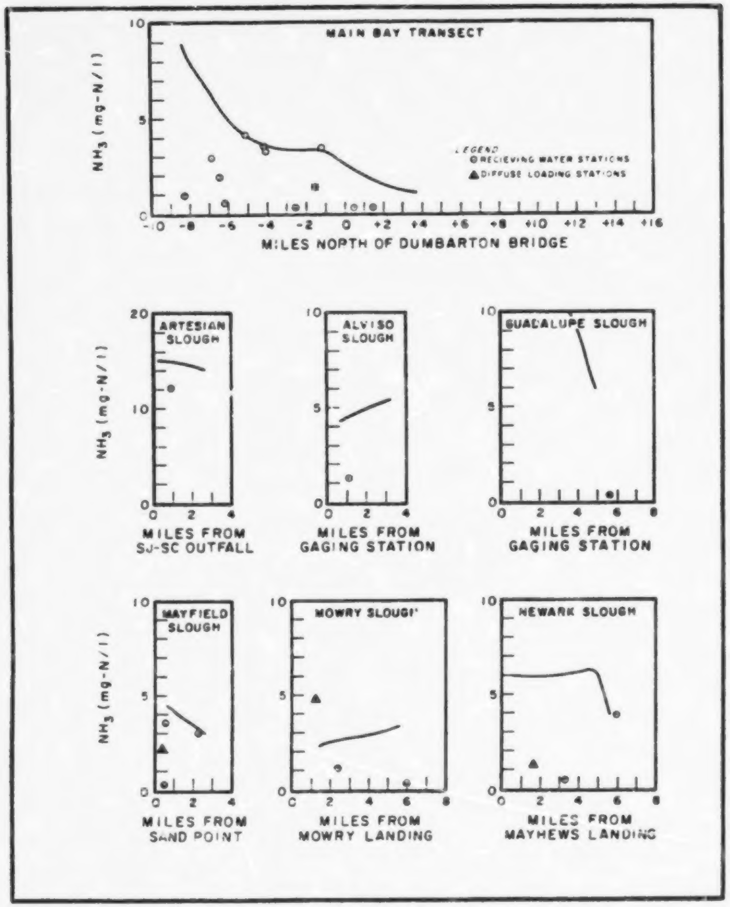

FIGURE 12

COMPARISON OF COMPUTED AND OBSERVED AMMONIA NITROGEN (CONSERVATIVE)
(OCTOBER, 1977 CALIBRATION-NO MARSH LOADS OF NITROGEN)

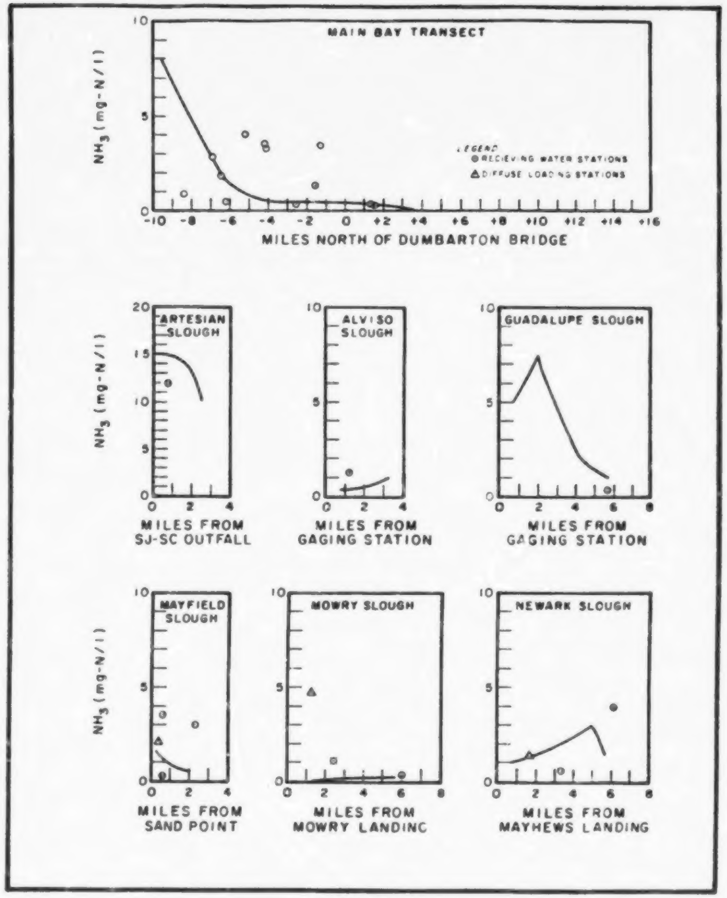

FIGURE 13

COMPARISON OF COMPUTED AND OBSERVED AMMONIA NITROGEN (K_n = 0.1 / day)
(OCTOBER, 1977 CALIBRATION-NO MARSH LOADS OF NITROGEN)

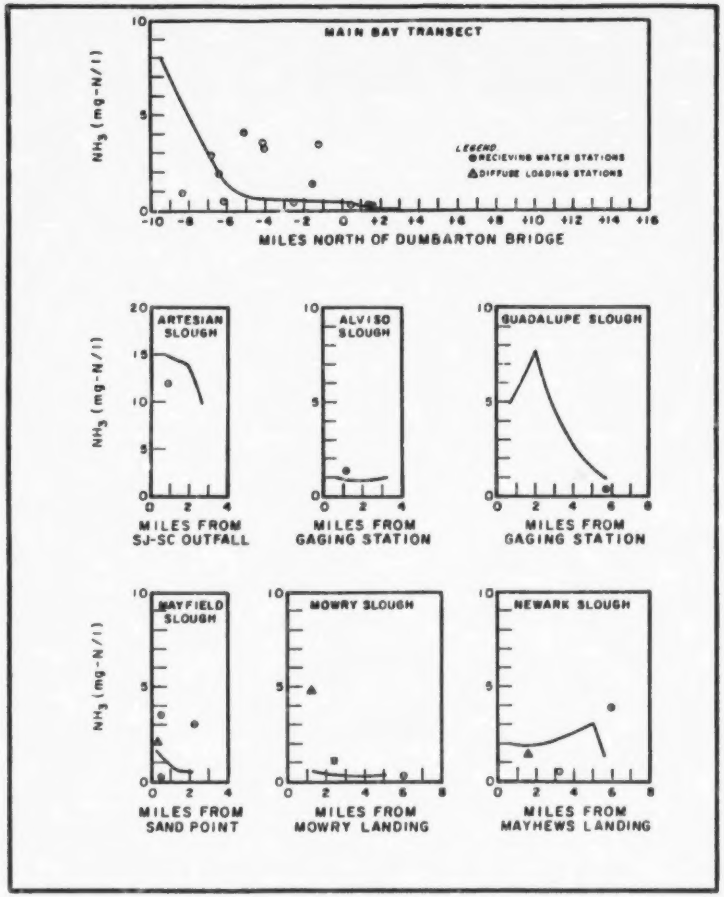

FIGURE 14

COMPARISON OF COMPUTED AND OBSERVED AMMONIA NITROGEN
(OCTOBER, 1977 CALIBRATION - INCLUDES MARSH LOADS)

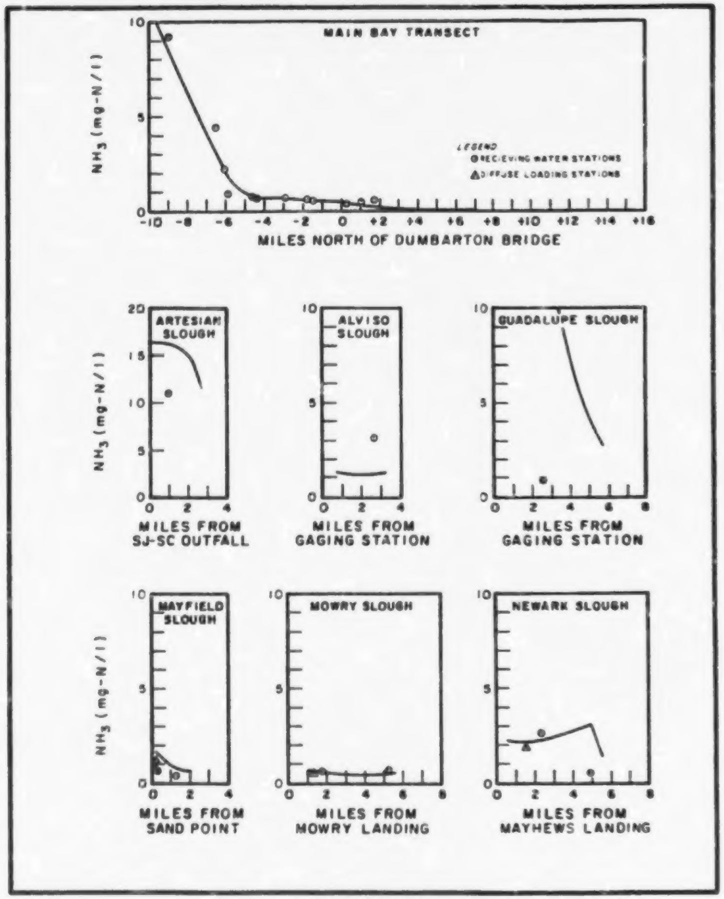

FIGURE 15

COMPUTED AND OBSERVED AMMONIA NITROGEN
(NOVEMBER, 1977 - INCLUDES MARSH LOADS)

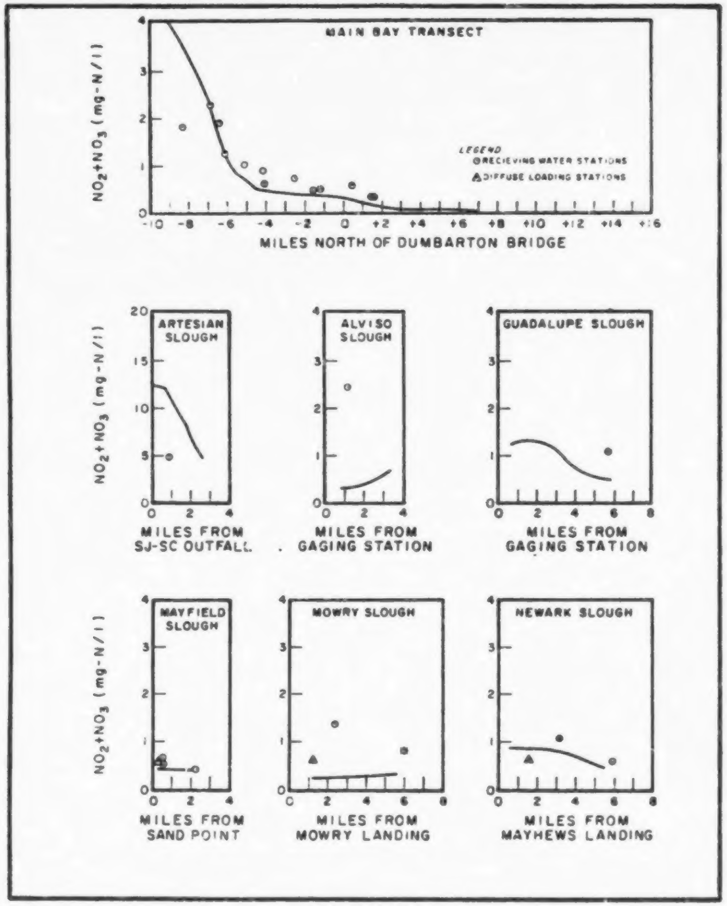

FIGURE 16

COMPUTED AND OBSERVED NO_2-NO_3 NITROGEN
(OCTOBER, 1977 CALIBRATION)

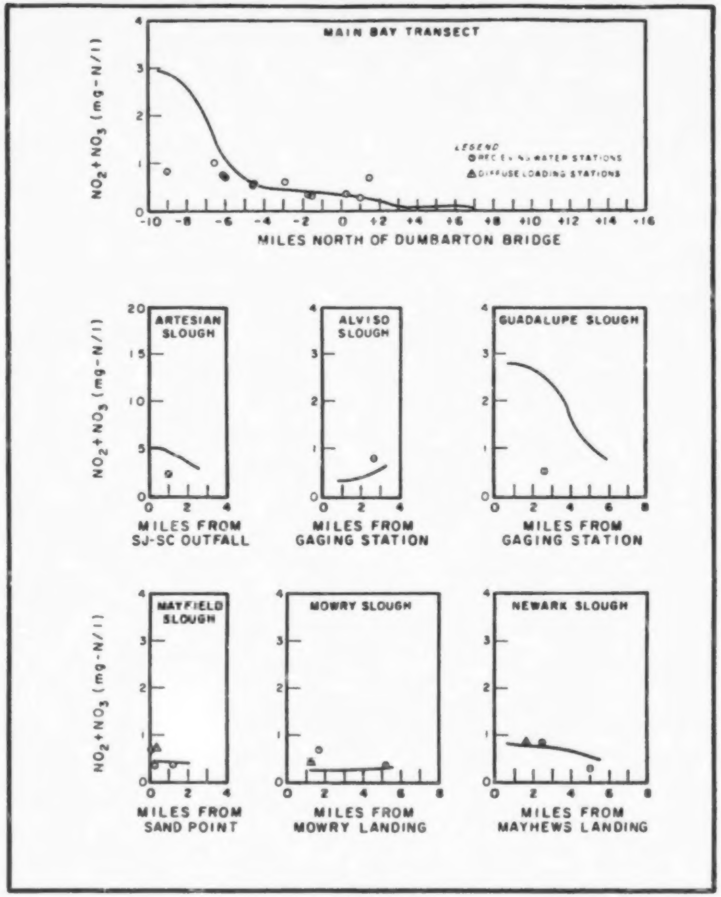

FIGURE 17

COMPUTED AND OBSERVED NO_2-NO_3 NITROGEN
(NOVEMBER, 1977 VERIFICATION)

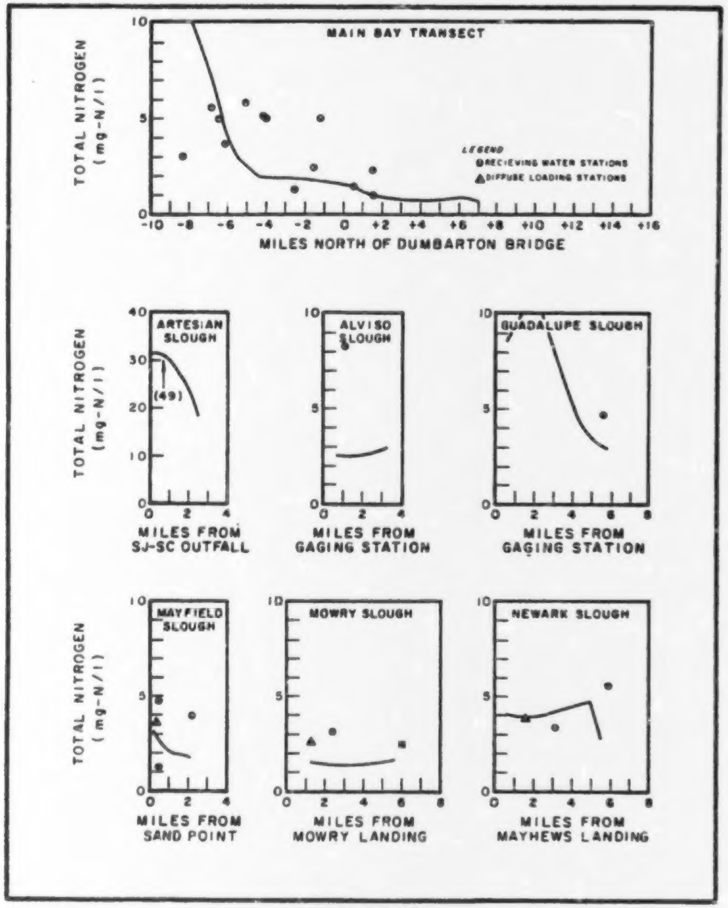

FIGURE 18

COMPARISON OF COMPUTED AND OBSERVED TOTAL NITROGEN
(OCTOBER, 1977 CALIBRATION)

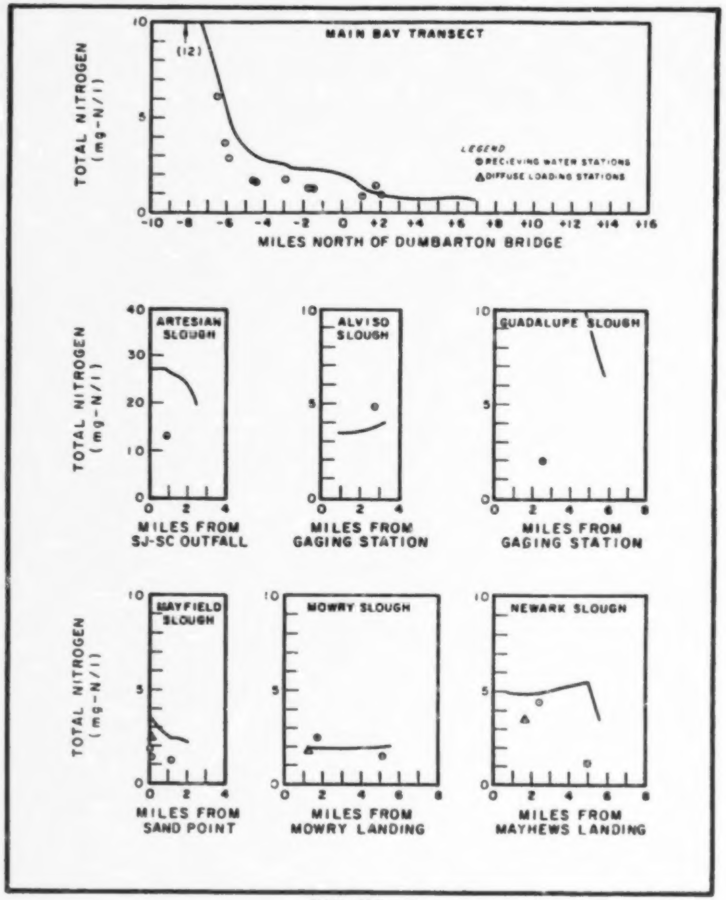

FIGURE 19

COMPUTED AND OBSERVED TOTAL NITROGEN
(NOVEMBER, 1977 VERIFICATION)

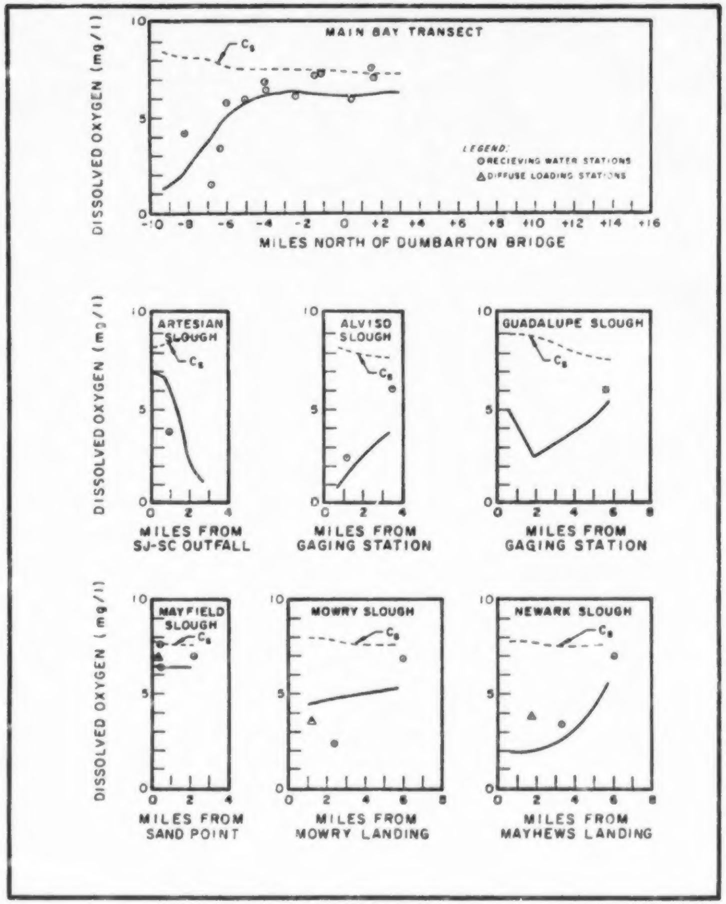

FIGURE 20

COMPARISON OF COMPUTED AND OBSERVED DISSOLVED OXYGEN
(OCTOBER, 1977 CALIBRATION)

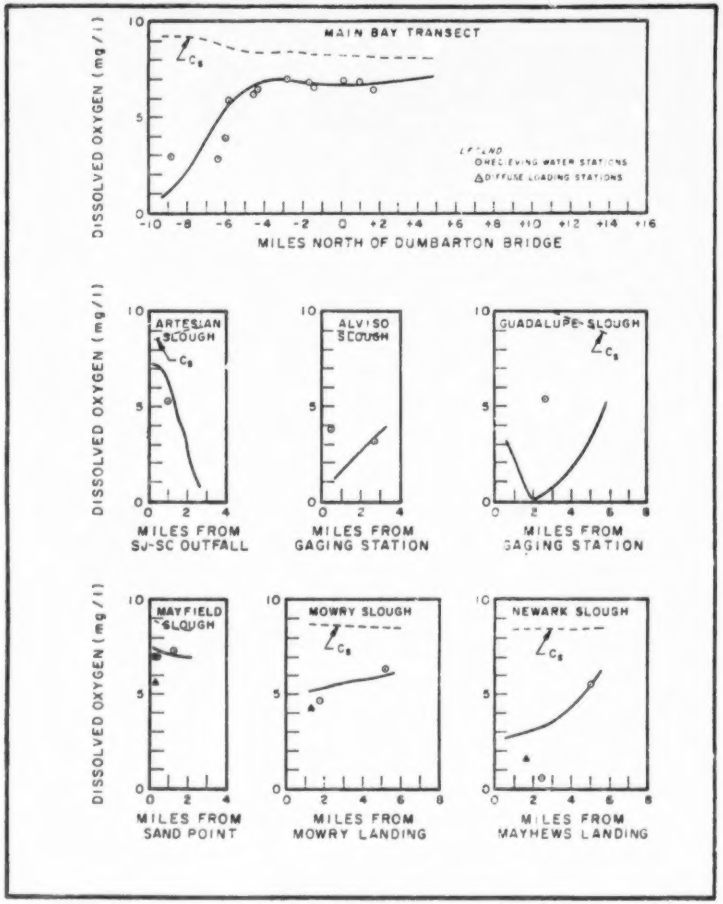

FIGURE 21

COMPUTED AND OBSERVED DISSOLVED OXYGEN CONCENTRATION
(NOVEMBER, 1977 VERIFICATION)

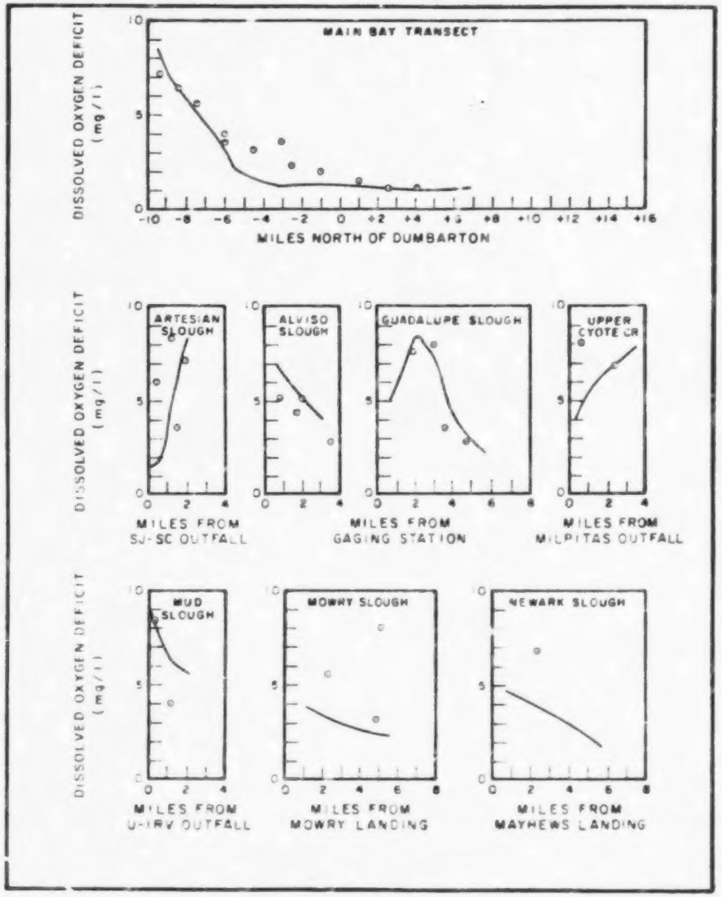

FIGURE 22

COMPUTED AND OBSERVED
DISSOLVED OXYGEN DEFICIT CONCENTRATION
(JUNE, 1967)

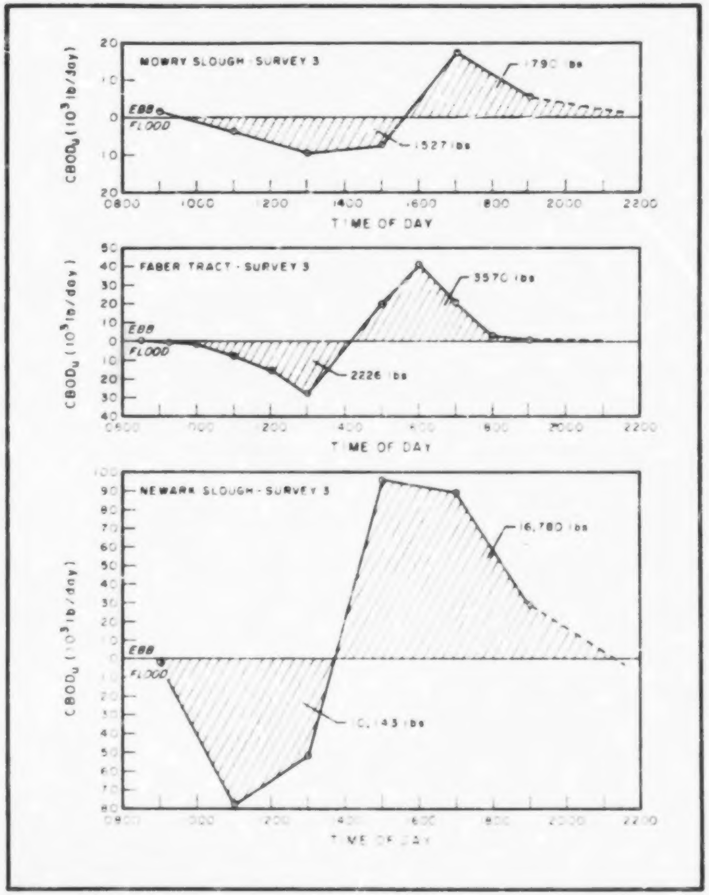

FIGURE 23

DIFFUSE LOAD SURVEY CBOD MEASUREMENTS
(OCTOBER, 1977)

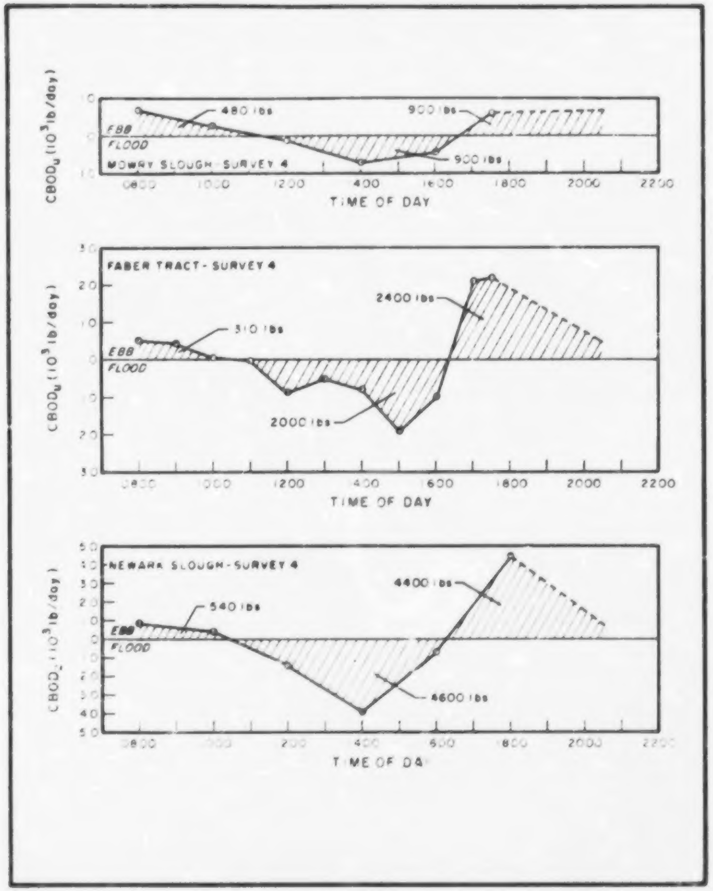

FIGURE 24

DIFFUSE LOAD CBOD$_u$ MEASUREMENTS
(NOVEMBER, 1977)

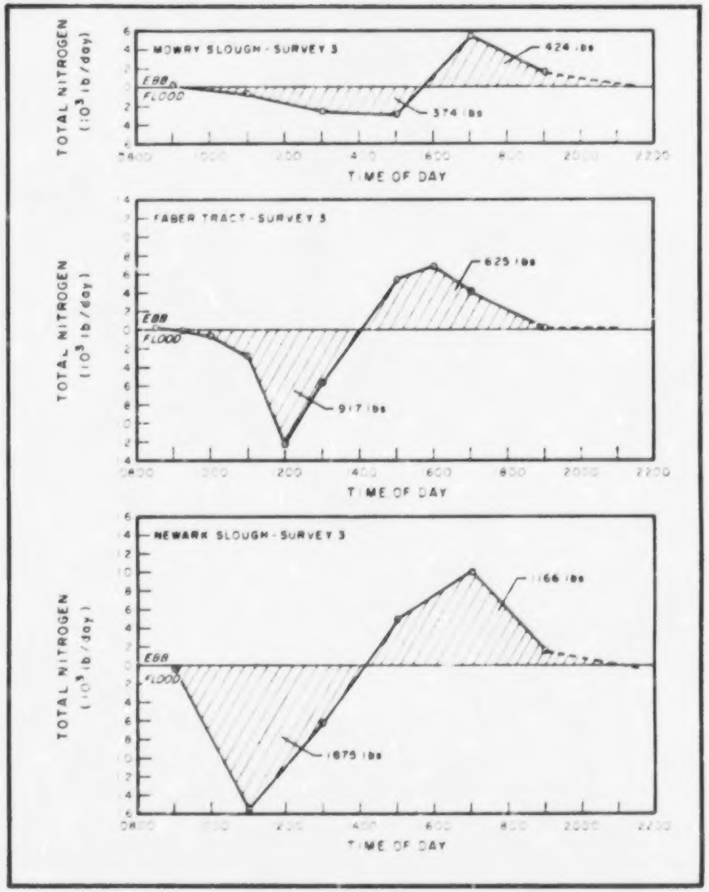

FIGURE 25

DIFFUSE LOAD SURVEY TOTAL NITROGEN MEASUREMENTS
(OCTOBER, 1977)

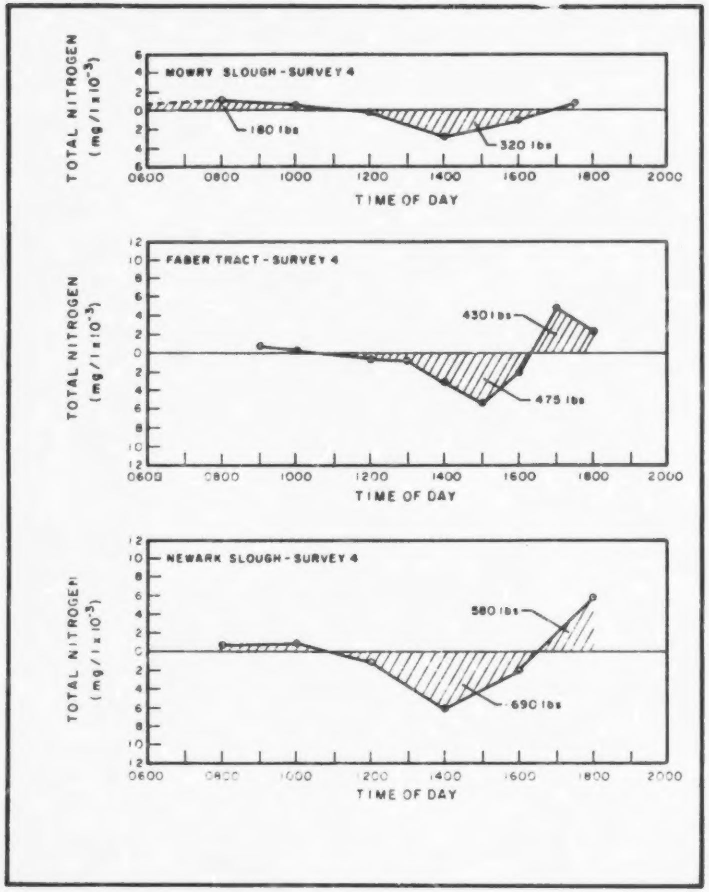

FIGURE 26

DIFFUSE LOAD TOTAL NITROGEN MEASUREMENTS
(NOVEMBER, 1977)

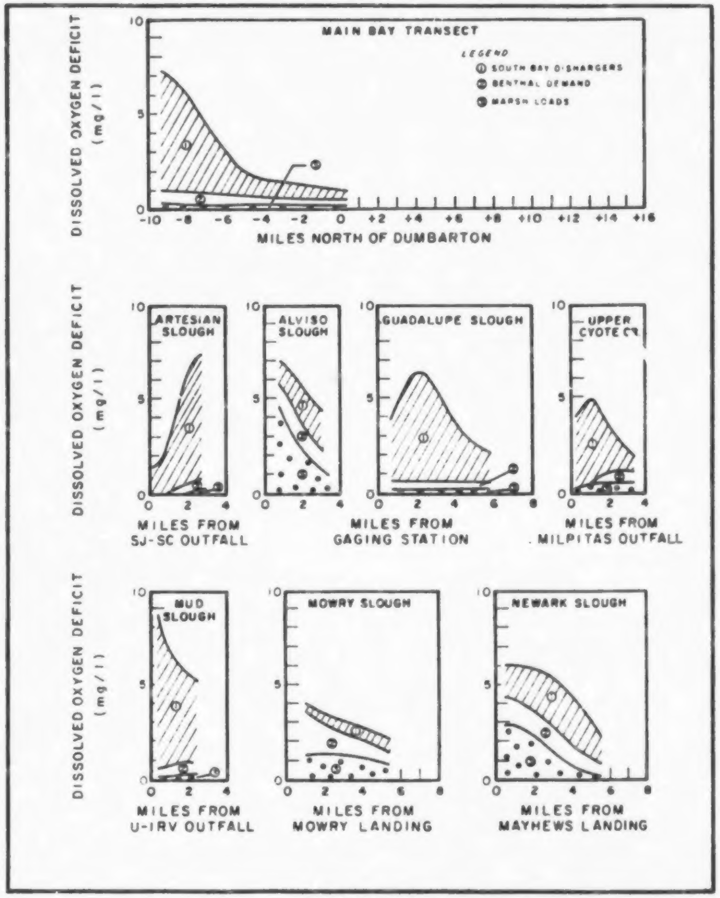

FIGURE 27

DISSOLVED OXYGEN DEFICIT COMPONENT RESPONSES
(OCTOBER, 1977 CALIBRATION)

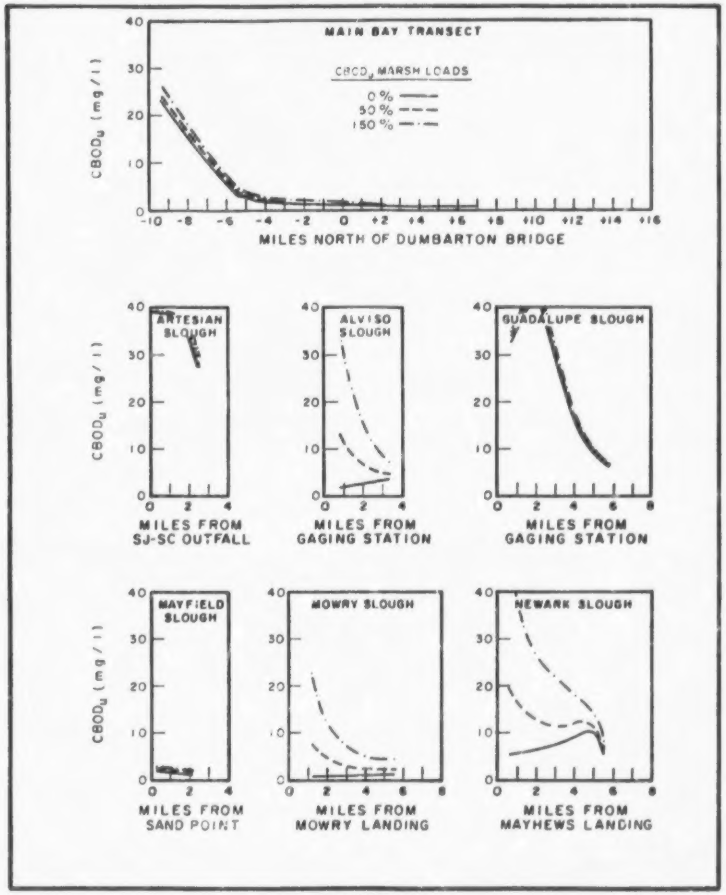

FIGURE 28

CARBONACEOUS BOD SENSITIVITY TO MARSH LOAD RATES

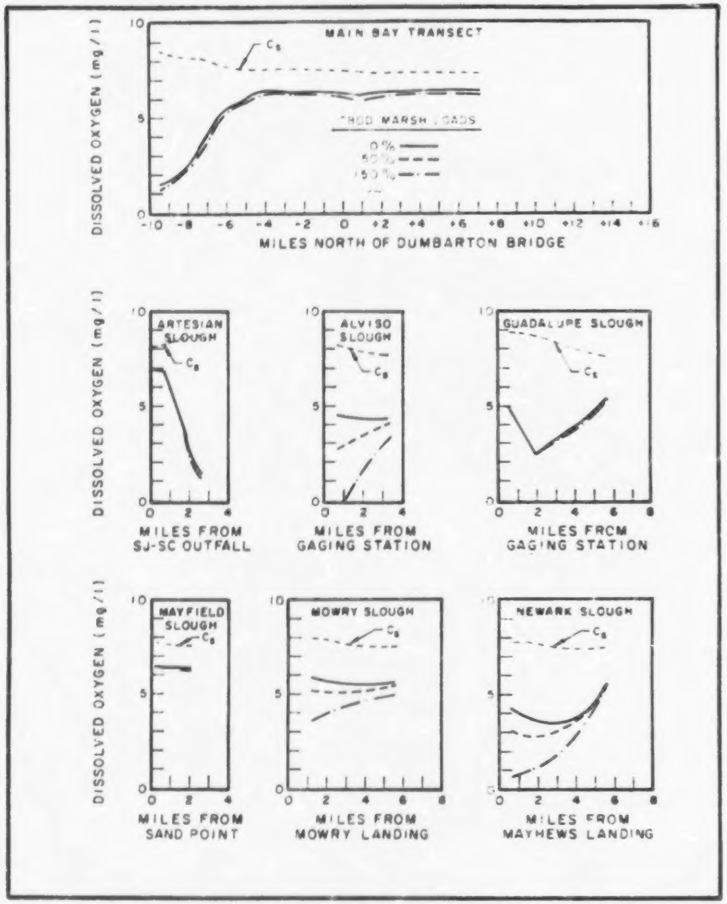

FIGURE 29

DISSOLVED OXYGEN SENSITIVITY TO CBOD MARSH LOADING RATES

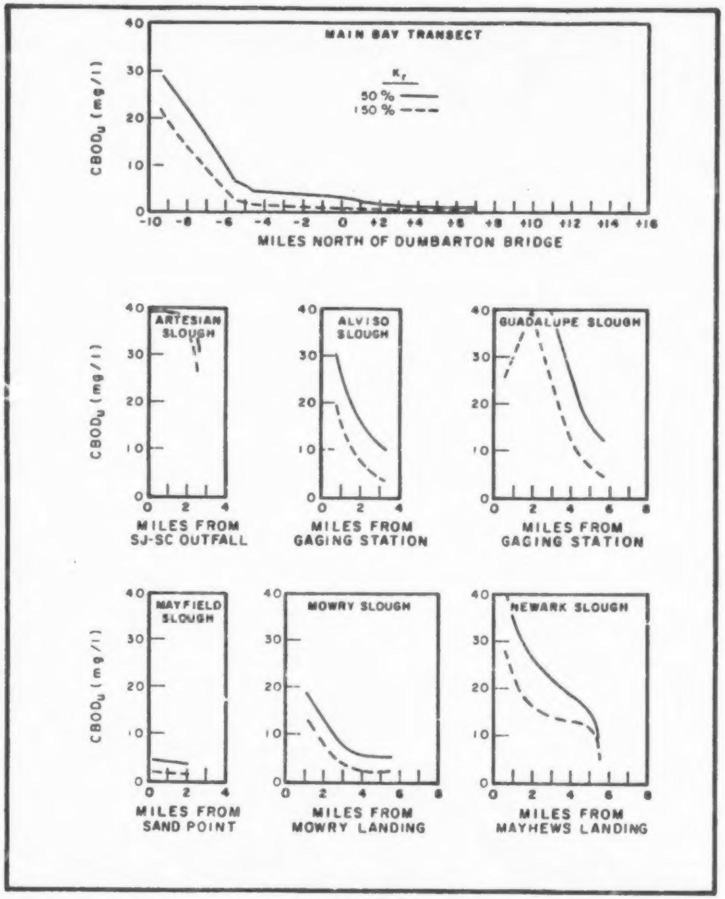

FIGURE 30

CARBONACEOUS BOD SENSITIVITY TO K_r

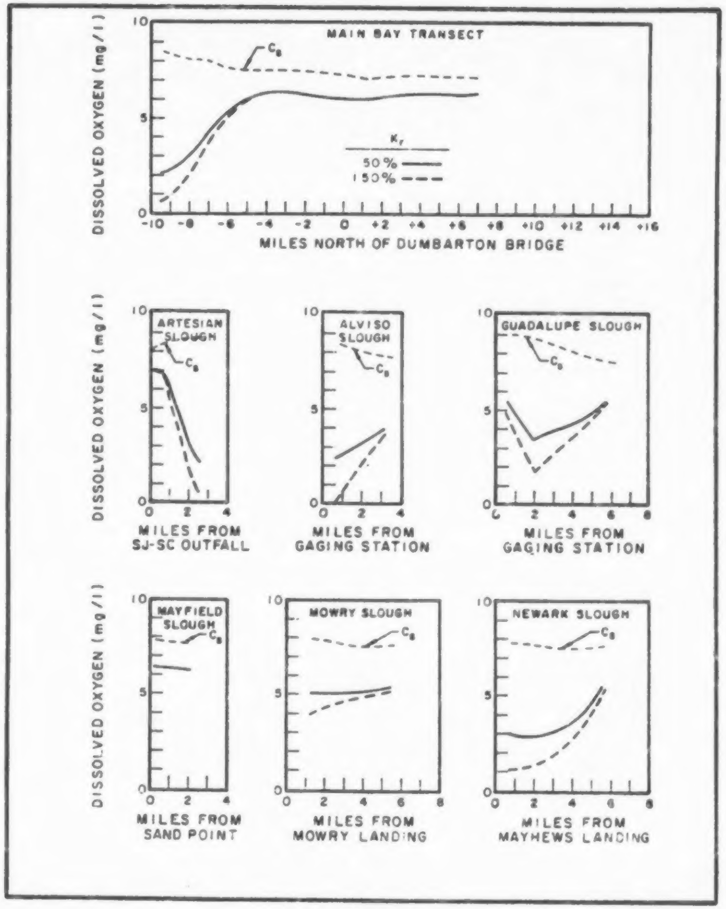

FIGURE 31

DISSOLVED OXYGEN SENSITIVITY TO K_r

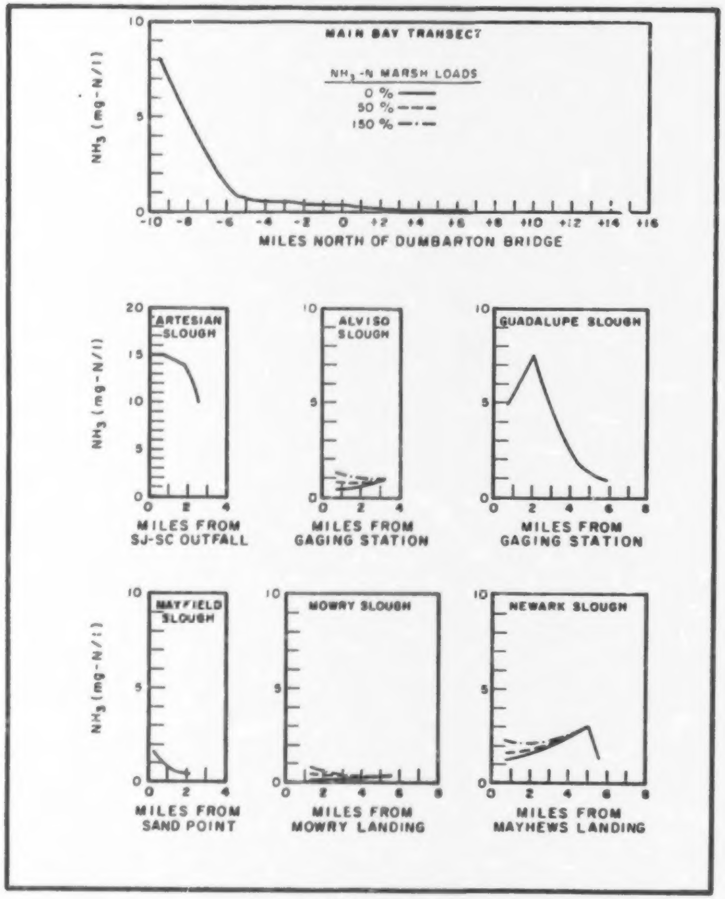

FIGURE 32

AMMONIA NITROGEN SENSITIVITY TO MARSH LOADING RATE

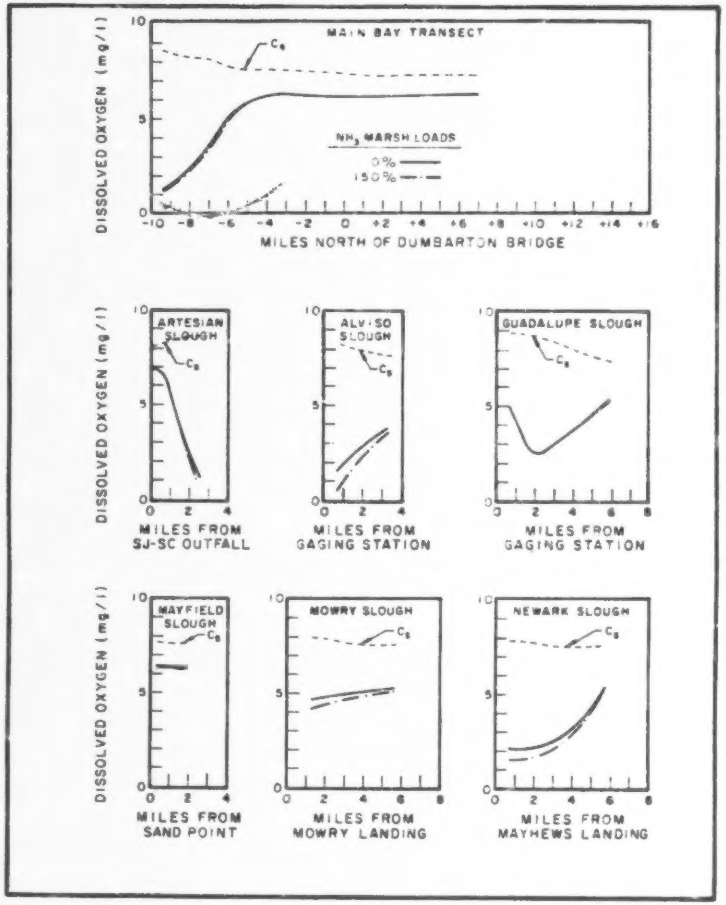

FIGURE 33

DISSOLVED OXYGEN SENSITIVITY TO NBOD MARSH LOADING RATE

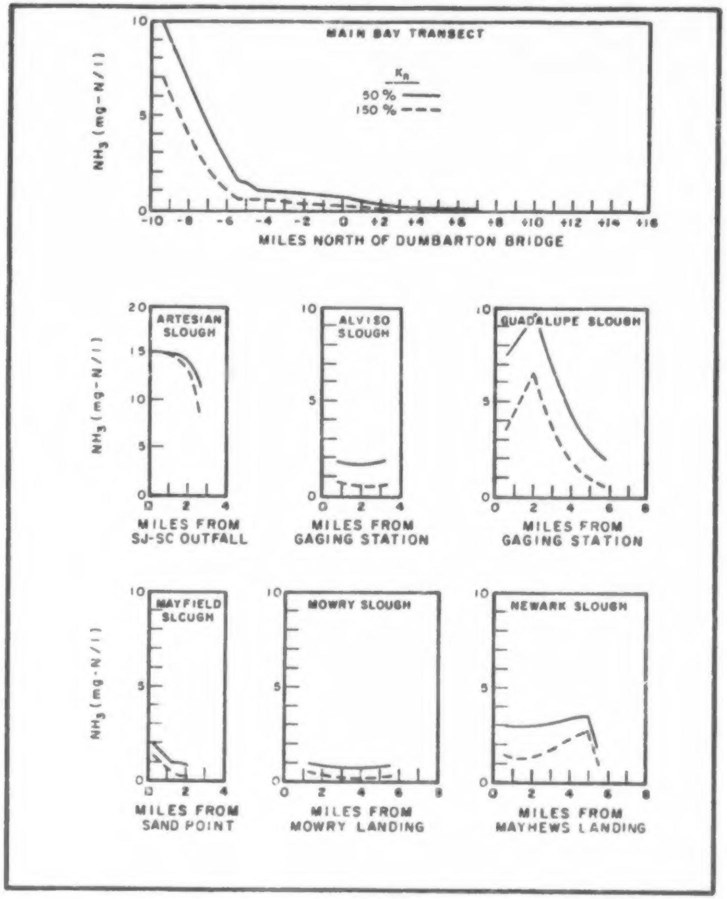

FIGURE 34

AMMONIA NITROGEN SENSITIVITY TO K_n

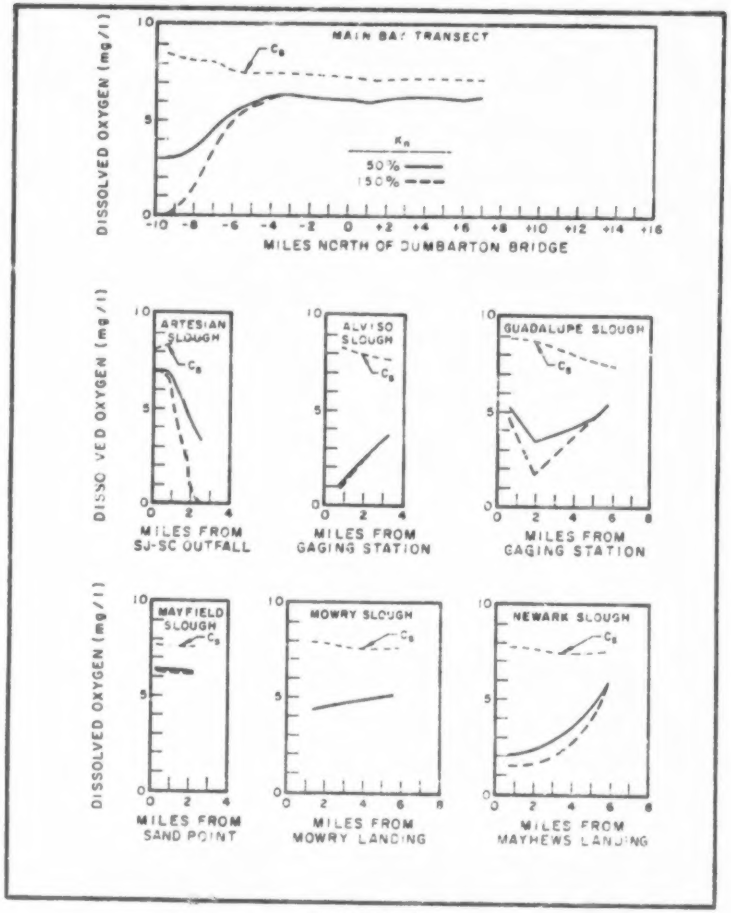

FIGURE 35

DISSOLVED OXYGEN SENSITIVITY TO K_n

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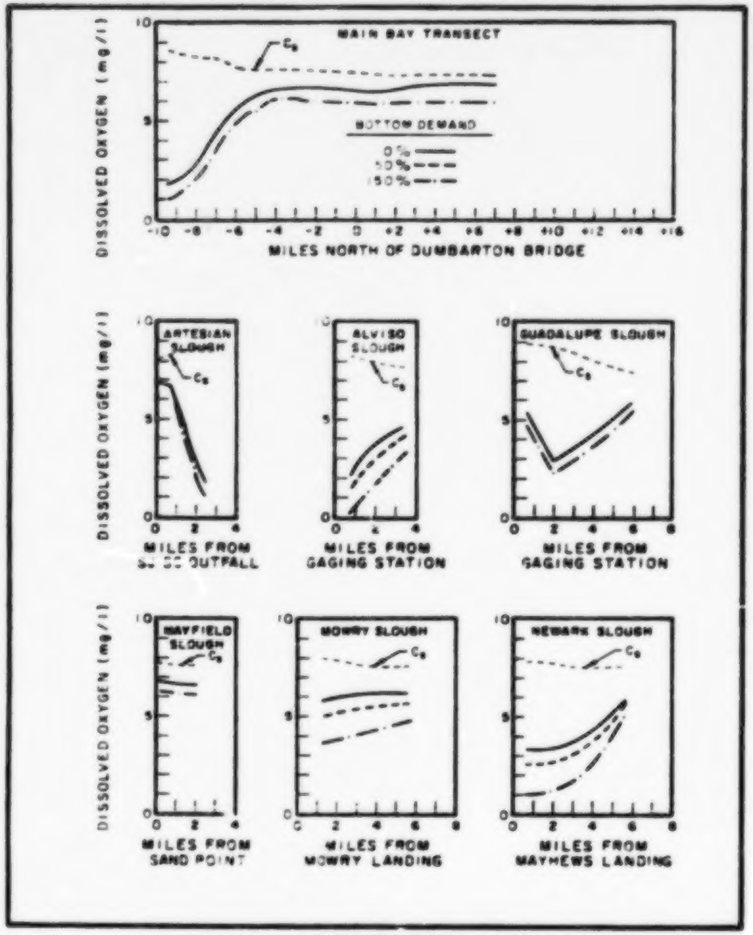

FIGURE 36

DISSOLVED OXYGEN SENSITIVITY TO BOTTOM DEMAND

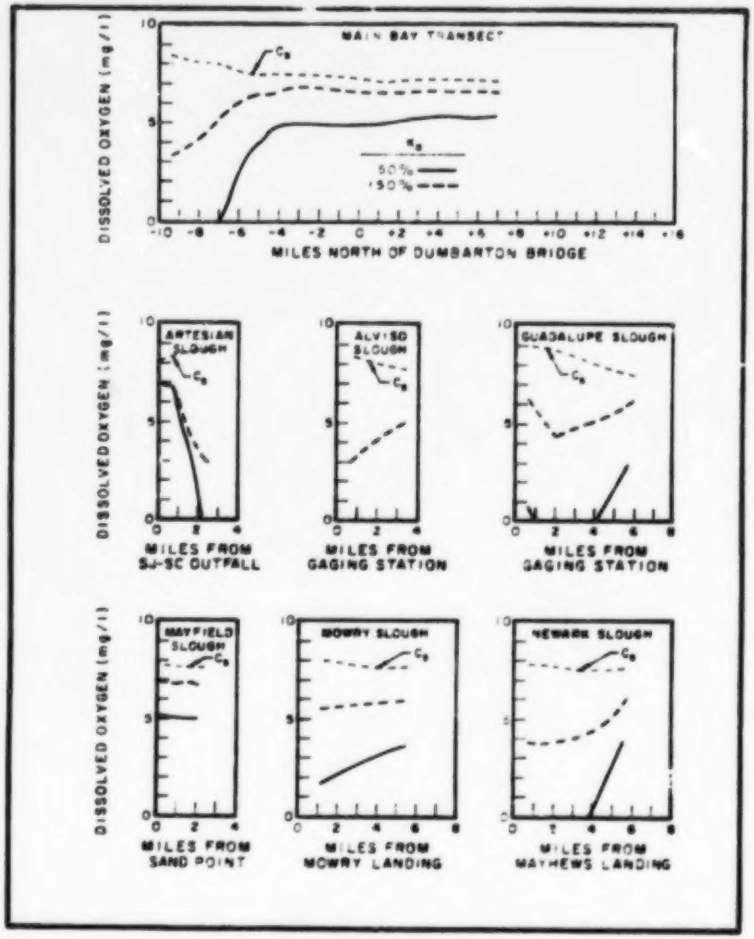

FIGURE 37

DISSOLVED OXYGEN SENSITIVITY TO K_a

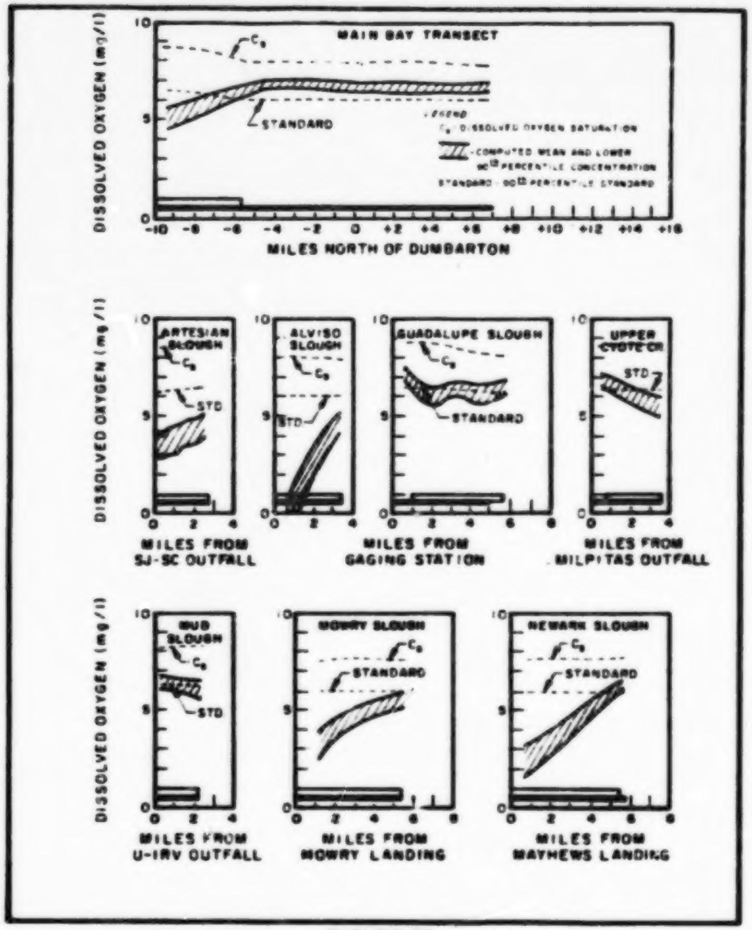

FIGURE 38

PROJECTED DISSOLVED OXYGEN CONDITIONS
NO PROJECT
(1995 CANNING SEASON)

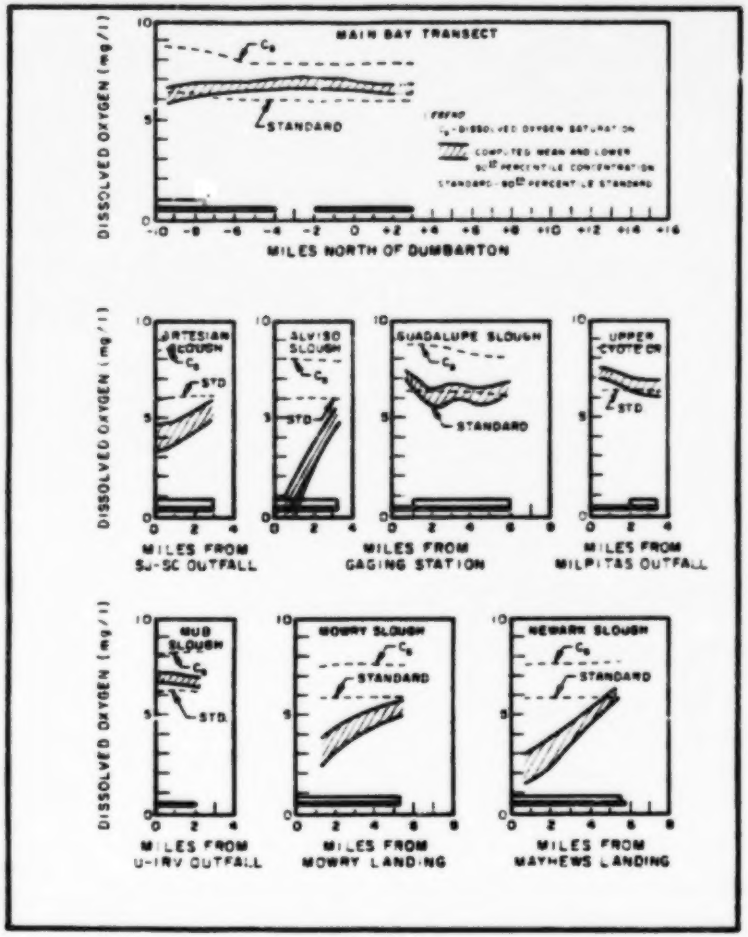

FIGURE 39

PROJECTED DISSOLVED OXYGEN CONDITIONS
UPGRADE AT SAN JOSE / SANTA CLARA
(1995 CANNING SEASON)

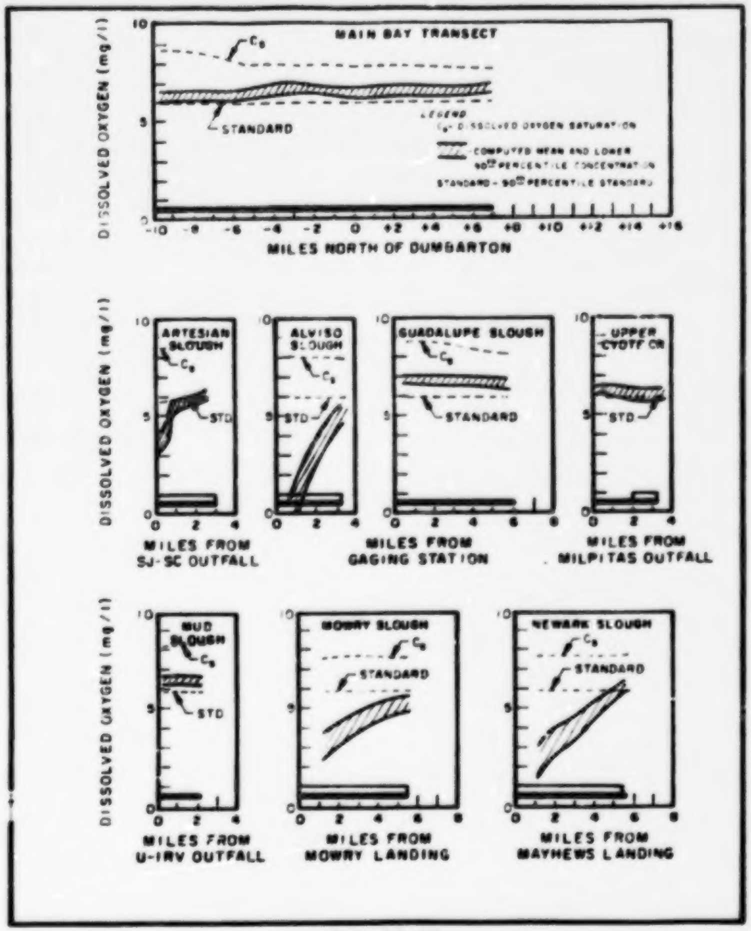

FIGURE 40

PROJECTED DISSOLVED OXYGEN CONDITIONS
DEEP WATER DISCHARGE ALTERNATIVE
(1995 CANNING SEASON)

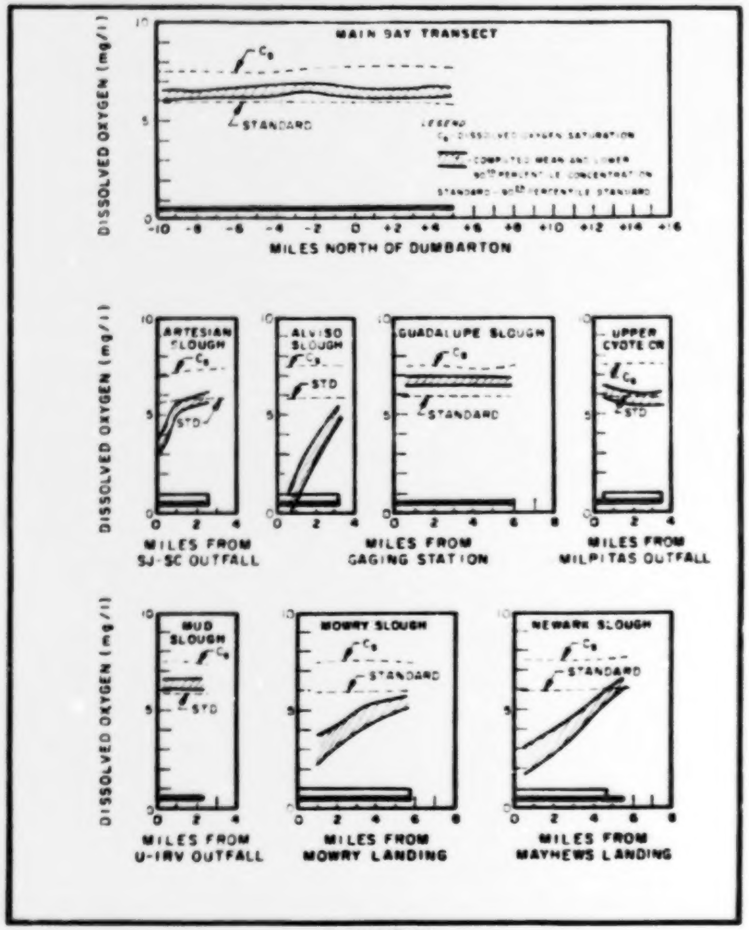

FIGURE 41

PROJECTED DISSOLVED OXYGEN CONDITIONS
DP 31 DISCHARGE ALTERNATIVE
(1995 CANNING SEASON)

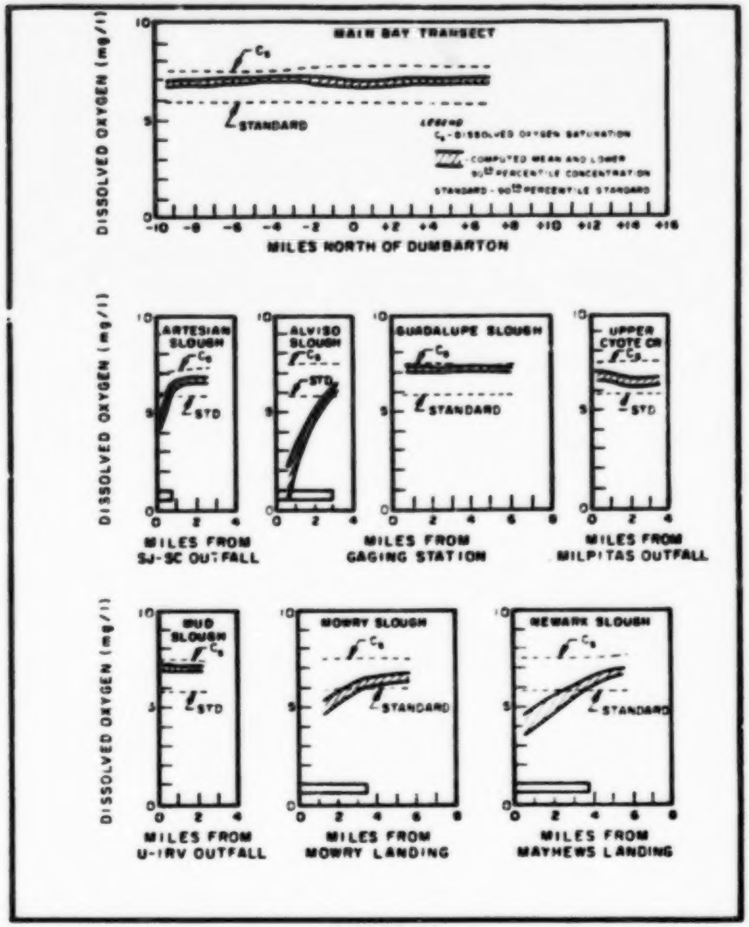

FIGURE 42

'OPTIMISTIC' DISSOLVED OXYGEN PROJECTION DP 31 DISCHARGE
(1995 CANNING SEASON)